or to stay

## SEQUENCE LISTING

<110> Genentech, Inc. Ashkenazi, Avi Botstein, David Desnoyers, Luc Eaton, Dan L. Ferrara, Napoleone Filvaroff, Ellen Fong, Sherman Gao, Wei-Qiang Gerber, Hanspeter Gerritsen, Mary E. Goddard, A. Godowski, Paul J. Grimaldi, Christopher J. Gurney, Austin L. Hillan, Kenneth, J. Kljavin, Ivar J. Mather, Jennie P. Pan, James Paoni, Nicholas F. Roy, Margaret Ann Stewart, Timothy A. Tumas, Daniel Williams, P. Mickey Wood, William, I.

- <120> Secreted and Transmembrane Polypeptides and Nucleic Acids Encoding the Same
- <130> 10466-14
- <140> 09/665,350
- <141> 2000-09-18
- <150> PCT/US00/04414
- <151> 2000-02-22
- <150> US 60/143,048
- <151> 1999-07-07
- <150> US 60/145,698
- <151> 1999-07-26
- <150> US 60/146,222
- <151> 1999-07-28
- <150> PCT/US99/20594
- <151> 1999-09-08
- <150> PCT/US99/20944
- <151> 1999-09-13

```
<150> PCT/US99/21090
<151> 1999-09-15
<150> PCT/US99/21547
<151> 1999-09-15
<150> PCT/US99/23089
<151> 1999-10-05
<150> PCT/US99/28214
<151> 1999-11-29
<150> PCT/US99/28313
<151> 1999-11-30
<150> PCT/US99/28564
<151> 1999-12-02
<150> PCT/US99/28565
<151> 1999-12-02
<150> PCT/US99/30095
<151> 1999-12-16
<150> PCT/US99/30911
<151> 1999-12-20
<150> PCT/US99/30999
<151> 1999-12-20
<150> PCT/US00/00219
<151> 2000-01-05
 <160> 423
 <210> 1
 <211> 1825
 <212> DNA
 <213> Homo sapiens
 <400> 1
 actgcacctc ggttctatcg attgaattcc ccgggggatcc tctagagatc cctcgacctc 60
 gacccacgcg teegggeegg ageageaegg eegeaggace tggageteeg getgegtett 120
 cccgcagcgc tacccgccat gcgcctgccg cgccgggccg cgctggggct cctgccgctt 180
 etgetgetge tgeegeege geeggaggee geeaagaage egaegeeetg ceaeeggtge 240
 cgggggctgg tggacaagtt taaccagggg atggtggaca ccgcaaagaa gaactttggc 300
 ggegggaaca eggettggga ggaaaagaeg etgteeaagt aegagteeag egagattege 360
 ctgctggaga tcctggaggg gctgtgcgag agcagcgact tcgaatgcaa tcagatgcta 420
 gaggcgcagg aggagcacct ggaggcctgg tggctgcagc tgaagagcga atatcctgac 480
 ttattcgagt ggttttgtgt gaagacactg aaagtgtgct gctctccagg aacctacggt 540
 cccgactgtc tcgcatgcca gggcggatcc cagaggccct gcagcgggaa tggccactgc 600
 ageggagatg ggagcagaca gggcgacggg teetgeeggt gecacatggg gtaccaggge 660
```

```
ecgetgtgca etgaetgeat ggaeggetae tteagetege teeggaaega gaeeeaeage 720
atetgeacag cetgtgacga gteetgeaag aegtgetegg geetgaceaa eagagaetge 780
ggcgagtgtg aagtgggctg ggtgctggac gagggcgcct gtgtggatgt ggacgagtgt 840
geggeegage egeeteeetg eagegetgeg eagttetgta agaaegeeaa eggeteetae 900
acqtqcqaag agtqtqactc caqctqtqtq gqctqcacaq gqgaaggccc aggaaactqt 960
aaaqagtgta tetetggeta egegagggag caeggacagt gtgeagatgt ggaegagtge 1020
tcactagcag aaaaaacctg tgtgaggaaa aacgaaaact gctacaatac tccagggagc 1080
tacgtctgtg tgtgtcctga cggcttcgaa gaaacggaag atgcctgtgt gccgccggca 1140
gaggetgaag eeacagaagg agaaageeeg acacagetge eeteeegega agaeetgtaa 1200
tgtgccggac ttacccttta aattattcag aaggatgtcc cgtggaaaat gtggccctga 1260
ggatgccgtc tcctgcagtg gacagcggcg gggagaggct gcctgctctc taacggttga 1320
tteteatttg teeettaaac agetgeattt ettggttgtt ettaaacaga ettgtatatt 1380
aaaaaaaaa aaagggegge egegaeteta gagtegaeet geagaagett ggeegeeatq 1500
gcccaacttg tttattgcag cttataatgg ttacaaataa agcaatagca tcacaaattt 1560
cacaaataaa gcattttttt cactgcattc tagttgtggt ttgtccaaac tcatcaatgt 1620
atettateat gtetggateg ggaattaatt eggegeagea ceatggeetg aaataacete 1680
tqaaaqaqqa acttqqttaq gtaccttctg aggcggaaag aaccagctgt ggaatgtgtg 1740
tcaqttaggg tgtggaaagt ccccaggctc cccagcaggc agaagtatgc aagcatgcat 1800
ctcaattagt cagcaaccca gtttt
<210> 2
<211> 353
<212> PRT
<213> Homo sapiens
<400>2
Met Arg Leu Pro Arg Arg Ala Ala Leu Gly Leu Leu Pro Leu Leu Leu
Leu Leu Pro Pro Ala Pro Glu Ala Ala Lys Lys Pro Thr Pro Cys His
Arg Cys Arg Gly Leu Val Asp Lys Phe Asn Gln Gly Met Val Asp Thr
Ala Lys Lys Asn Phe Gly Gly Gly Asn Thr Ala Trp Glu Glu Lys Thr
                        55
Leu Ser Lys Tyr Glu Ser Ser Glu Ile Arg Leu Leu Glu Ile Leu Glu
 65
                    70
Gly Leu Cys Glu Ser Ser Asp Phe Glu Cys Asn Gln Met Leu Glu Ala
Gln Glu Glu His Leu Glu Ala Trp Trp Leu Gln Leu Lys Ser Glu Tyr
           100
                                                  110
Pro Asp Leu Phe Glu Trp Phe Cys Val Lys Thr Leu Lys Val Cys
Ser Pro Gly Thr Tyr Gly Pro Asp Cys Leu Ala Cys Gln Gly Gly Ser
```

135

140

Gln 145	Arg	Pro	Cys	Ser	Gly 150	Asn	Gly	His	Cys	Ser 155	Gly	Asp	Gly	Ser	Arg 160
Gln	Gly	Asp	Gly	Ser 165	Cys	Arg	Cys	His	Met 170	Gly	Tyr	Gln	Gly	Pro 175	Leu
Cys	Thr	Asp	Cys 180	Met	Asp	Gly	Tyr	Phe 185	Ser	Ser	Leu	Arg	Asn 190	Glu	Thr
His	Ser	Ile 195	Cys	Thr	Ala	Cys	Asp 200	Glu	Ser	Cys	Lys	Thr 205	Cys	Ser	Gly
Leu	Thr 210	Asn	Arg	Asp	Cys	Gly 215	Glu	Cys	Glu	Val	Gly 220	Trp	Val	Leu	Asp
Glu 225	Gly	Ala	Cys	Val	Asp 230	Val	Asp	Glu	Cys	Ala 235	Ala	Glu	Pro	Pro	Pro 240
Cys	Ser	Ala	Ala	Gln 245	Phe	Cys	Lys	Asn	Ala 250	Asn	Gly	Ser	Tyr	Thr 255	Cys
Glu	Glu	Суѕ	Asp 260	Ser	Ser	Cys	Val	Gly 265	Cys	Thr	Gly	Glu	Gly 270	Pro	Gly
Asn	Cys	Lys 275	Glu	Cys	Ile	Ser	Gly 280	Tyr	Ala	Arg	Glu	His 285	Gly	Gln	Cys
Ala	Asp 290	Val	Asp	Glu	Cys	Ser 295	Leu	Ala	Glu	Lys	Thr 300	Cys	Val	Arg	Lys
Asn 305	Glu	Asn	Cys	Tyr	Asn 310	Thr	Pro	Gly	Ser	Tyr 315	Val	Cys	Val	Cys	Pro 320
Asp	Gly	Phe	Glu	Glu 325	Thr	Glu	Asp	Ala	Cys 330	Val	Pro	Pro	Ala	Glu 335	Ala
Glu	Ala	Thr	Glu 340	Gly	Glu	Ser	Pro	Thr 345	Gln	Leu	Pro	Ser	Arg 350	Glu	Asp
Leu															

<210> 3

<211> 2206

<212> DNA

<213> Homo sapiens

<400> 3

caggtccaac tgcacctcgg ttctatcgat tgaattcccc ggggatcctc tagagatccc 60 tcgacctcga cccacgcgtc cgccaggccg ggaggcgacg cgcccagccg tctaaacggg 120 aacagccctg gctgaggag ctgcagcgca gcagagtatc tgacggcgcc aggttgcgta 180 ggtgcggcac gaggagtttt cccggcagcg aggaggtcct gagcagcatg gcccggagga 240

```
gegeetteee tgeegeegeg etetggetet ggageateet eetgtgeetg etggeaetge 300
gggcggaggc cgggccgccg caggaggaga gcctgtacct atggatcgat gctcaccagg 360
caagagtact cataggattt gaagaagata tcctgattgt ttcagagggg aaaatggcac 420
cttttacaca tgatttcaga aaagcgcaac agagaatgcc agctattcct gtcaatatcc 480
attccatgaa ttttacctgg caagetgcag ggcaggcaga atacttctat gaattcctgt 540
ccttgcgctc cctggataaa ggcatcatgg cagatccaac cgtcaatgtc cctctgctgg 600
gaacagtgcc tcacaaggca tcagttgttc aagttggttt cccatgtctt ggaaaacagg 660
atggggtggc agcatttgaa gtggatgtga ttgttatgaa ttctgaaggc aacaccattc 720
tccaaacacc tcaaaatqct atcttcttta aaacatqtca acaaqctqaq tqcccaqqcq 780
ggtgccgaaa tggaggcttt tgtaatgaaa gacgcatctg cgagtgtcct gatgggttcc 840
acggacetea etgtgagaaa geeetttgta eeccacgatg tatgaatggt ggaetttgtg 900
tgactcctgg tttctgcatc tgcccacctg gattctatgg agtgaactgt gacaaagcaa 960
actgeteaac cacetgettt aatggagga cetgttteta ceetggaaaa tgtatttgcc 1020
ctccaqqact aqaqqqaqaq caqtqtqaaa tcagcaaatg cccacaaccc tgtcgaaatg 1080
gaqqtaaatg cattgqtaaa agcaaatgta agtgttccaa aggttaccag ggagacctct 1140
gttcaaagcc tgtctgcgag cctggctgtg gtgcacatgg aacctgccat gaacccaaca 1200
aatgccaatg tcaagaaggt tggcatggaa gacactgcaa taaaaggtac gaagccagcc 1260
tcatacatqc cctqaqqcca qcaqqcqccc aqctcaqqca qcacacgcct tcacttaaaa 1320
aggccgagga gcggcgggat ccacctgaat ccaattacat ctggtgaact ccgacatctg 1380
aaacgtttta agttacacca agttcatagc ctttgttaac ctttcatgtg ttgaatgttc 1440
aaataatgtt cattacactt aagaatactg gcctgaattt tattagcttc attataaatc 1500
actgagctga tatttactct tccttttaag ttttctaagt acgtctgtag catgatggta 1560
tagattttct tgtttcagtg ctttgggaca gattttatat tatgtcaatt gatcaggtta 1620
aaattttcaq tqtqtaqttq qcaqatattt tcaaaattac aatqcattta tqqtqtctqq 1680
qqqcaqqqqa acatcaqaaa qqttaaattq qqcaaaaaatq cqtaagtcac aagaatttgg 1740
atggtgcagt taatgttgaa gttacagcat ttcagatttt attgtcagat atttagatgt 1800
ttaaacaata taatattc taaacacaat gaaataggga atataatgta tgaacttttt 1980
ttttatactg tttgtatgta taaaataaag gtgctgcttt agttttttgg aaaaaaaaa 2100
aaaaaaaaa aaaaaaaaa aaaaaaaaa gggcggccgc gactctagag tcgacctgca 2160
                                                            2206
gaagettgge egecatggee caacttgttt attgeagett ataatg
<210> 4
<211> 379
<212> PRT
<213> Homo sapiens
<400> 4
Met Ala Arg Arg Ser Ala Phe Pro Ala Ala Ala Leu Trp Leu Trp Ser
Ile Leu Leu Cys Leu Leu Ala Leu Arg Ala Glu Ala Gly Pro Pro Gln
            20
                                                 30
```

Ile Gly Phe Glu Glu Asp Ile Leu Ile Val Ser Glu Gly Lys Met Ala
50 55 60

Glu Glu Ser Leu Tyr Leu Trp Ile Asp Ala His Gln Ala Arg Val Leu

Pro Phe Thr His Asp Phe Arg Lys Ala Gln Gln Arg Met Pro Ala Ile

65					70					75					80
Pro	Val	Asn	Ile	His 85	Ser	Met	Asn	Phe	Thr 90	Trp	Gln	Ala	Ala	Gly 95	Gln
Ala	Glu	Tyr	Phe 100	Tyr	Glu	Phe	Leu	Ser 105	Leu	Arg	Ser	Leu	Asp 110	Lys	Gly
Ile	Met	Ala 115	Asp	Pro	Thr	Val	Asn 120	Val	Pro	Leu	Leu	Gly 125	Thr	Val	Pro
His	Lys 130	Ala	Ser	Val	Val	Gln 135	Val	Gly	Phe	Pro	Cys 140	Leu	Gly	Lys	Gln
Asp 145	Gly	Val	Ala	Ala	Phe 150	Glu	Val	Asp	Val	Ile 155	Val	Met	Asn	Ser	Glu 160
Gly	Asn	Thr	Ile	Leu 165	Gln	Thr	Pro	Gln	Asn 170	Ala	Ile	Phe	Phe	Lys 175	Thr
Cys	Gln	Gln	Ala 180	Glu	Cys	Pro	Gly	Gly 185	Суѕ	Arg	Asn	Gly	Gly 190	Phe	Сув
Asn	Glu	Arg 195	Arg	Ile	Cys	Glu	Cys 200	Pro	Asp	Gly	Phe	His 205	Gly	Pro	His
Cys	Glu 210	Lys	Ala	Leu	Cys	Thr 215	Pro	Arg	Cys	Met	Asn 220	Gly	Gly	Leu	Cys
Val 225	Thr	Pro	Gly	Phe	Cys 230	Ile	Cys	Pro	Pro	Gly 235	Phe	Tyr	Gly	Val	Asn 240
Cys	Asp	Lys	Ala	Asn 245		Ser	Thr	Thr	Cys 250	Phe	Asn	Gly	Gly	Thr 255	Cys
Phe	Tyr	Pro	Gly 260		Cys	Ile	Cys	Pro 265		Gly	Leu	Glu	Gly 270	Glu	Gln
Cys	Glu	1le 275		Lys	Cys	Pro	Gln 280	Pro	Cys	Arg	Asn	Gly 285	Gly	Lys	Cys
Ile	Gly 290		Ser	Lys	Cys	Lys 295		Ser	Lys	: Gly	Туг 300	Gln	Gly	Asp	Leu
Cys 305		Lys	Pro	val	. Cys		Pro	Gly	Cys	315	Ala	His	Gly	Thr	Cys 320
His	Glu	ı Pro	Asn	Lys 325		Gln	суя	Gln	330		Trp	His	Gly	335	His
Суя	: Asr	ı Lys	arg 340		Glu	ı Ala	. Ser	Leu 345		e His	ala Ala	Lev	arg 350	Pro	Ala

Gly Ala Gln Leu Arg Gln His Thr Pro Ser Leu Lys Lys Ala Glu Glu 355 360 365	
Arg Arg Asp Pro Pro Glu Ser Asn Tyr Ile Trp 370 375	
<210> 5 <211> 45 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 5 agggagcacg gacagtgtgc agatgtggac gagtgctcac tagca	45
<210> 6 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 6 agagtgtatc tctggctacg c	21
<210> 7 <211> 22 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 7 taagtccggc acattacagg to	22
<210> 8 <211> 49 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 8	49

```
<210> 9
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
     oligonucleotide probe
<400> 9
                                                                22
aaagacgcat ctgcgagtgt cc
<210> 10
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
     oligonucleotide probe
<400> 10
tgctgatttc acactgctct ccc
                                                                23
<210> 11
<211> 2197
<212> DNA
<213> Homo sapiens
<400> 11
eggaegegtg ggegteegge ggtegeagag ceaggaggeg gaggegegeg ggeeageetg 60
ggccccagcc cacacettca ccagggccca ggagccacca tgtggcgatg tccactgggg 120
ctactqctgt tgctqccqct ggctggccac ttggctctgg gtgcccagca gggtcgtggg 180
cgccgggagc tagcaccggg tctgcacctg cggggcatcc gggacgcggg aggccggtac 240
tgccaggagc aggacctgtg ctgccgcggc cgtgccgacg actgtgccct gccctacctg 300
ggcgccatct gttactgtga cctcttctgc aaccgcacgg tctccgactg ctgccctgac 360
ttctgggact tctgcctcgg cgtgccaccc ccttttcccc cgatccaagg atgtatgcat 420
qqaqqtcqta tctatccaqt cttqqqaacq tactgqqaca actgtaaccg ttqcacctgc 480
caggagaaca ggcagtggca tggtggatcc agacatgatc aaagccatca accagggcaa 540
ctatggctgg caggctggga accacagege cttctggggc atgaccctgg atgagggcat 600
tegetacege etgggeacea teegeecate tteeteggte atgaacatge atgaaattta 660
tacagtgctg aacccagggg aggtgcttcc cacagccttc gaggcctctg agaagtggcc 720
caacctgatt catgagecte ttgaccaagg caactgtgca ggeteetggg cettetecae 780
agcagctgtg gcatccgatc gtgtctcaat ccattctctg ggacacatga cgcctgtcct 840
gtcgccccag aacctgctgt cttgtgacac ccaccagcag cagggctgcc gcggtgggcg 900
tetegatggt geetggtggt teetgegteg eegaggggtg gtgtetgaee aetgetaeee 960
cttctcgggc cgtgaacgag acgaggctgg ccctgcgccc ccctgtatga tgcacagccg 1020
agccatgggt cggggcaagc gccaggccac tgcccactgc cccaacagct atgttaataa 1080
caatgacatc taccaggtca ctcctgtcta ccgcctcggc tccaacgaca aggagatcat 1140
gaaggagetg atggagaatg geeetgteea ageeeteatg gaggtgeatg aggaettett 1200
cctatacaag ggaggcatct acagccacac gccagtgagc cttgggaggc cagagagata 1260
```

His Asp Pro Gly

```
tggaaggacg ctcaaatact ggactgcggc caactcctgg ggcccagcct ggggcgagag 1380
gggccacttc cgcatcgtgc gcggcgtcaa tgagtgcgac atcgagagct tcgtgctggg 1440
cgtctggggc cgcgtgggca tggaggacat gggtcatcac tgaggctgcg ggcaccacgc 1500
ggggteegge etgggateea ggetaaggge eggeggaaga ggeeceaatg gggeggtgae 1560
cccagecteg eeegacagag eeeggggege aggegggege cagggegeta ateceggege 1620
gggtteeget gaegeagege ceegeetggg ageegeggge aggegagaet ggeggageee 1680
ccagacctcc cagtggggac ggggcagggc ctggcctggg aagagcacag ctgcagatcc 1740
caggeetetg gegeeeceae teaagaetae caaageeagg acaceteaag tetecageee 1800
ttgcccaggt tggagtgcag tggcccatca gggctcactg taacctccga ctcctgggtt 1920
caagtgaccc tcccacctca gcctctcaag tagctgggac tacaggtgca ccaccacacc 1980
tggctaattt ttgtattttt tgtaaagagg ggggtctcac tgtgttgccc aggctggttt 2040
equaetectq qqeteaaqeq qtecacetqe etecqeetec caaaqtgetg ggattgeagg 2100
catqaqccac tqcacccaqc cctqtattct tattcttcag atatttattt ttcttttcac 2160
tgttttaaaa taaaaccaaa gtattgataa aaaaaaa
<210> 12
<211> 164
<212> PRT
<213> Homo sapiens
<400> 12
Met Trp Arg Cys Pro Leu Gly Leu Leu Leu Leu Pro Leu Ala Gly
                                                       15
His Leu Ala Leu Gly Ala Gln Gly Arg Gly Arg Arg Glu Leu Ala
Pro Gly Leu His Leu Arq Gly Ile Arq Asp Ala Gly Gly Arq Tyr Cys
Gln Glu Gln Asp Leu Cys Cys Arg Gly Arg Ala Asp Asp Cys Ala Leu
Pro Tyr Leu Gly Ala Ile Cys Tyr Cys Asp Leu Phe Cys Asn Arg Thr
Val Ser Asp Cys Cys Pro Asp Phe Trp Asp Phe Cys Leu Gly Val Pro
                85
                                   90
Pro Pro Phe Pro Pro Ile Gln Gly Cys Met His Gly Gly Arg Ile Tyr
Pro Val Leu Gly Thr Tyr Trp Asp Asn Cys Asn Arg Cys Thr Cys Gln
       115
                           120
                                              125
Glu Asn Arg Gln Trp His Gly Gly Ser Arg His Asp Gln Ser His Gln
Pro Gly Gln Leu Trp Leu Ala Gly Trp Glu Pro Gln Arg Leu Leu Gly
145
                   150
                                      155
                                                          160
```

```
<210> 13
<211> 533
<212> DNA
<213> Homo sapiens
<220>
<221> modified base
<222> (33)
<223> a, t, c or g
<220>
<221> modified base
<222> (80)
<223> a, t, c or g
<220>
<221> modified base
<222> (94)
<223> a, t, c or g
<220>
<221> modified_base
<222> (144)
<223> a, t, c or g
<220>
<221> modified base
<222> (188)
<223> a, t, c or g
<400> 13
aggeteettg geeettttte cacageaage ttntgenate eegattegtt gteteaaate 60
caattetett gggacacatn acgcetgtee tttngceeca gaacetgetg tettgtacae 120
ccaccagcag cagggctgcc gcgntgggcg tctcgatggt gcctggtggt tcctgcgtcg 180
ccgagggntg gtgtctgacc actgctaccc cttctcgggc cgtgaacgag acgaggctgg 240
ccctgcgccc ccctgtatga tgcacagccg agccatgggt cggggcaagc gccaggccac 300
tgcccactgc cccaacagct atgttaataa caatgacatc taccaggtca ctcctgtcta 360
ccgcctcggc tccaacgaca aggagatcat gaaggagctg atggagaatg gccctgtcca 420
agccctcatg gaggtgcatg aggacttctt cctatacaag ggaggcatct acagccacac 480
gccagtgagc cttgggaggc cagagagata ccgccggcat gggacccact cag
<210> 14
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 14
```

```
24
ttcgaggcct ctgagaagtg gccc
<210> 15
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 15
ggcggtatct ctctggcctc cc
                                                                  22
<210> 16
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 16
                                                                  50
ttctccacag cagctgtggc atccgatcgt gtctcaatcc attctctggg
<210> 17
<211> 960
<212> DNA
<213> Homo sapiens
<400> 17
getgettgee etgttgatgg eaggettgge eetgeageea ggeaetgeee tgetgtgeta 60
ctcctgcaaa gcccaggtga gcaacgagga ctgcctgcag gtggagaact gcacccagct 120
gggggagcag tgctggaccg cgcgcatccg cgcagttggc ctcctgaccg tcatcagcaa 180
aggetgeage ttgaactgeg tggatgacte acaggactae tacgtgggea agaagaacat 240
cacqtgctgt gacaccgact tgtgcaacgc cagcggggcc catgccctgc agccggctgc 300
egecatectt gegetgetee etgeactegg cetgetgete tggggaceeg gecagetata 360
ggctctgggg ggcccgctg cagcccacac tgggtgtggt gccccaggcc tctgtgccac 420
tecteacaga cetggeccag tgggageetg teetggttee tgaggeacat cetaacgeaa 480
gtetgaccat gtatgtetge acceetgtee eccaecetga eccteecatg geeeteteea 540
ggacteceae eeggeagate agetetagtg acacagatee geetgeagat ggeceeteea 600
acceptetetg etgetgttte catggeccag cattetecae cettaaccet gtgeteagge 660
acctettece ccaggaagee tteeetgeee acceeateta tgaettgage caggtetggt 720
ccgtggtgtc ccccgcaccc agcaggggac aggcactcag gagggcccag taaaggctga 780
gatgaagtgg actgagtaga actggaggac aagagtcgac gtgagttcct gggagtctcc 840
agagatgggg cctggaggcc tggaggaagg ggccaggcct cacattcgtg gggctccctg 900
aatggcagcc tgagcacagc gtaggccctt aataaacacc tgttggataa gccaaaaaaa 960
<210> 18
<211> 189
<212> PRT
<213> Homo sapiens
```

<400> 18 Met Thr His Arq Thr Thr Trp Ala Arq Arq Thr Ser Arq Ala Val Thr Pro Thr Cys Ala Thr Pro Ala Gly Pro Met Pro Cys Ser Arg Leu 20 25 Pro Pro Ser Leu Arg Cys Ser Leu His Ser Ala Cys Cys Ser Gly Asp Pro Ala Ser Tyr Arg Leu Trp Gly Ala Pro Leu Gln Pro Thr Leu Gly 55 Val Val Pro Gln Ala Ser Val Pro Leu Leu Thr Asp Leu Ala Gln Trp Glu Pro Val Leu Val Pro Glu Ala His Pro Asn Ala Ser Leu Thr Met 90 Tyr Val Cys Thr Pro Val Pro His Pro Asp Pro Pro Met Ala Leu Ser 105 Arg Thr Pro Thr Arg Gln Ile Ser Ser Ser Asp Thr Asp Pro Pro Ala 120 Asp Gly Pro Ser Asn Pro Leu Cys Cys Cys Phe His Gly Pro Ala Phe Ser Thr Leu Asn Pro Val Leu Arg His Leu Phe Pro Gln Glu Ala Phe Pro Ala His Pro Ile Tyr Asp Leu Ser Gln Val Trp Ser Val Val Ser 170 Pro Ala Pro Ser Arg Gly Gln Ala Leu Arg Arg Ala Gln 185 1.80

<210> 19

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide probe

<400> 19

tgctgtgcta ctcctgcaaa gccc

<210> 20

<211> 24

<212> DNA

```
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 20
                                                                  24
tgcacaagtc ggtgtcacag cacg
<210> 21
<211> 44
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 21
                                                                  44
aqcaacqaqq actgcctgca ggtggagaac tgcacccagc tggg
<210> 22
<211> 1200
<212> DNA
<213> Homo sapiens
<400> 22
cccacqcqtc cqaacctctc caqcqatqqq agccgcccgc ctgctgccca acctcactct 60
gtgcttacag ctgctgattc tctgctgtca aactcagtac gtgagggacc agggcgccat 120
gaccgaccag ctgagcaggc ggcagatccg cgagtaccaa ctctacagca ggaccagtgg 180
caagcacgtg caggtcaccg ggcgtcgcat ctccgccacc gccgaggacg gcaacaagtt 240
tgccaagctc atagtggaga cggacacgtt tggcagccgg gttcgcatca aaggggctga 300
gagtgagaag tacatctgta tgaacaagag gggcaagctc atcgggaagc ccagcgggaa 360
gagcaaagac tgcgtgttca cggagatcgt gctggagaac aactatacgg ccttccagaa 420
egeceggeae gagggetggt teatggeett caegeggeag gggeggeece gecaggette 480
ccgcagccgc cagaaccagc gcgaggccca cttcatcaag cgcctctacc aaggccagct 540
gcccttcccc aaccacgccg agaagcagaa gcagttcgag tttgtgggct ccgccccac 600
ccgccggacc aagcgcacac ggcggcccca gcccctcacg tagtctggga ggcagggggc 660
ageageeest gggeegeste eecaceeest teeettetta atecaaggae tgggetgggg 720
tggcgggagg ggagccagat ccccgaggga ggaccctgag ggccgcgaag catccgagcc 780
cccagctggg aaggggcagg ccggtgcccc agggggggct ggcacagtgc ccccttcccg 840
gacgggtggc aggccctgga gaggaactga gtgtcaccct gatctcaggc caccagcctc 900
tgccggcctc ccagccgggc tcctgaagcc cgctgaaagg tcagcgactg aaggccttgc 960
agacaaccgt ctggaggtgg ctgtcctcaa aatctgcttc tcggatctcc ctcagtctgc 1020
ccccagccc caaactcctc ctggctagac tgtaggaagg gacttttgtt tgtttgtttg 1080
tttcaqqaaa aaaqaaaqqq aqaqaqqqa aaataqaqqq ttqtccactc ctcacattcc 1140
acgacccagg cctgcacccc acccccaact cccagccccg gaataaaacc attttcctgc 1200
<210> 23
<211> 205
<212> PRT
<213> Homo sapiens
```

<400> 23

Met Gly Ala Ala Arg Leu Leu Pro Asn Leu Thr Leu Cys Leu Gln Leu

1 5 10 15

Leu Ile Leu Cys Cys Gln Thr Gln Tyr Val Arg Asp Gln Gly Ala Met 20 25 30

Thr Asp Gln Leu Ser Arg Arg Gln Ile Arg Glu Tyr Gln Leu Tyr Ser 35 40 45

Arg Thr Ser Gly Lys His Val Gln Val Thr Gly Arg Arg Ile Ser Ala 50 55 60

Thr Ala Glu Asp Gly Asn Lys Phe Ala Lys Leu Ile Val Glu Thr Asp 65 70 75 80

Thr Phe Gly Ser Arg Val Arg Ile Lys Gly Ala Glu Ser Glu Lys Tyr
85 90 95

Ile Cys Met Asn Lys Arg Gly Lys Leu Ile Gly Lys Pro Ser Gly Lys
100 105 110

Ser Lys Asp Cys Val Phe Thr Glu Ile Val Leu Glu Asn Asn Tyr Thr 115 120 125

Ala Phe Gln Asn Ala Arg His Glu Gly Trp Phe Met Ala Phe Thr Arg 130 135 140

Gln Gly Arg Pro Arg Gln Ala Ser Arg Ser Arg Gln Asn Gln Arg Glu 145 150 155 160

Ala His Phe Ile Lys Arg Leu Tyr Gln Gly Gln Leu Pro Phe Pro Asn 165 170 175

His Ala Glu Lys Gln Lys Gln Phe Glu Phe Val Gly Ser Ala Pro Thr 180 185 190

Arg Arg Thr Lys Arg Thr Arg Arg Pro Gln Pro Leu Thr
195 200 205

<210> 24

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide probe

<400> 24

cagtacgtga gggaccaggg cgccatga

28

```
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 25
ccggtgacct gcacgtgctt gcca
                                                                   24
<210> 26
<211> 41
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<220>
<221> modified base
<222> (21)
<223> a, t, c or g
<400> 26
                                                                   41
geggatetge egeetgetea netggteggt eatggegeee t
<210> 27
<211> 2479
<212> DNA
<213> Homo sapiens
<400> 27
acttgccatc acctgttgcc aqtqtgqaaa aattctccct gttgaatttt ttqcacatgq 60
aggacagcag caaagagggc aacacaggct gataagacca gagacagcag ggagattatt 120
ttaccatacg ccctcaggac gttccctcta gctggaqttc tggacttcaa cagaacccca 180
tocagteatt tigattitge tgtttatttt ttttttcttt ttcttttcc caccacattg 240
tattttattt ccgtacttca gaaatgggcc tacagaccac aaagtggccc agccatgggg 300
cttttttcct gaagtettgg ettateattt eeetgggget etaeteacag gtgteeaaac 360
tectggeetg ceetagtgtg tgeegetgeg acaggaactt tqtetactgt aatqaqeqaa 420
gettgacete agtgeetett gggateeegg agggegtaac eqtaetetae etecacaaca 480
accaaattaa taatgctgga tttcctgcag aactgcacaa tgtacagtcg gtgcacacgg 540
tetacetgta tggcaaccaa etggacgaat teeccatgaa eetteecaag aatgteagag 600
ttctccattt gcaggaaaac aatattcaga ccatttcacg ggctgctctt gcccagctct 660
tgaagettga agagetgeae etggatgaea acteeatate cacaqtqqqq qtqqaaqaeq 720
gggcetteeg ggaggetatt ageeteaaat tgttgttttt gtetaagaat caeetgagea 780
gtgtgcctgt tgggcttcct gtggacttgc aagagctgag agtggatgaa aatcgaattg 840
ctgtcatatc cgacatggcc ttccagaatc tcacgagctt ggagcgtctt attgtggacg 900
ggaacctcct gaccaacaag ggtategeeg agggcacctt cagccatcte accaagctca 960
aggaattttc aattgtacqt aattcgctqt cccaccctcc tcccqatctc ccaqqtacqc 1020
atotgatoag gototatttg caggacaaco agataaacoa cattootttg acagcottot 1080
caaatctgcg taagctggaa cggctggata tatccaacaa ccaactgcgg atgctgactc 1140
```

```
aaggggtttt tgataatete teeaacetga ageageteae tgeteggaat aaceettggt 1200
tttgtgactg cagtattaaa tgggtcacag aatggctcaa atatatccct tcatctctca 1260
acgtgcgggg tttcatgtgc caaggtcctg aacaagtccg ggggatggcc gtcagggaat 1320
taaatatgaa tettttgtee tgteecacea egaeeceegg eetgeetete tteaceecag 1380
ccccaaqtac aqcttctccq accactcaqc ctcccaccct ctctattcca aaccctaqca 1440
gaagetacae geeteeaact eetaceacat egaaacttee caegatteet gaetgggatg 1500
qcaqaqaaaq aqtqacccca cctatttctq aacqqatcca qctctctatc cattttqtqa 1560
atgatactic cattcaaqtc aqctqqctct ctctcttcac cqtqatqqca tacaaactca 1620
catgggtgaa aatgggccac agtttagtag ggggcatcgt tcaggagcgc atagtcagcg 1680
gtgagaagca acacctgagc ctggttaact tagagccccg atccacctat cggatttgtt 1740
tagtgccact ggatgctttt aactaccgcg cggtagaaga caccatttgt tcagaggcca 1800
ccacccatqc ctcctatctq aacaacqqca qcaacacagc gtccagccat gagcagacga 1860
cqtcccacaq catqqqctcc ccctttctqc tqqcqqqctt gatcqqqqqc gcqgtqatat 1920
ttgtgctggt ggtcttgctc agcgtctttt gctggcatat gcacaaaaag gggcgctaca 1980
cctcccagaa gtggaaatac aaccggggcc ggcggaaaga tgattattgc gaggcaggca 2040
ccaagaagga caactccatc ctggagatga cagaaaccag ttttcagatc gtctccttaa 2100
ataacgatca actccttaaa ggagatttca gactgcagcc catttacacc ccaaatgggg 2160
gcattaatta cacagactgc catatcccca acaacatgcg atactgcaac agcagcgtgc 2220
cagacetgga geactgeeat aegtgaeage cagaggeeca gegttateaa ggeggaeaat 2280
tagactettg agaacacact egtgtgtgca cataaagaca egcagattac atttgataaa 2340
tgttacacag atgcatttgt gcatttgaat actctgtaat ttatacggtg tactatataa 2400
tgggatttaa aaaaagtgct atcttttcta tttcaagtta attacaaaca gttttgtaac 2460
tctttqcttt ttaaatctt
<210> 28
<211> 660
<212> PRT
<213> Homo sapiens
<400> 28
Met Gly Leu Gln Thr Thr Lys Trp Pro Ser His Gly Ala Phe Phe Leu
Lys Ser Trp Leu Ile Ile Ser Leu Gly Leu Tyr Ser Gln Val Ser Lys
Leu Leu Ala Cys Pro Ser Val Cys Arg Cys Asp Arg Asn Phe Val Tyr
Cys Asn Glu Arg Ser Leu Thr Ser Val Pro Leu Gly Ile Pro Glu Gly
     50
Val Thr Val Leu Tyr Leu His Asn Asn Gln Ile Asn Asn Ala Gly Phe
                     70
                                         75
Pro Ala Glu Leu His Asn Val Gln Ser Val His Thr Val Tyr Leu Tyr
Gly Asn Gln Leu Asp Glu Phe Pro Met Asn Leu Pro Lys Asn Val Arg
                                105
Val Leu His Leu Gln Glu Asn Asn Ile Gln Thr Ile Ser Arg Ala Ala
                            120
```

Leu Lys Leu Leu Phe Leu Ser Lys Asn His Leu Ser Ser Val Pro Val
165 170 175

Gly Leu Pro Val Asp Leu Gln Glu Leu Arg Val Asp Glu Asn Arg Ile 180 185 190

Ala Val Ile Ser Asp Met Ala Phe Gln Asn Leu Thr Ser Leu Glu Arg 195 200 205

Leu Ile Val Asp Gly Asn Leu Leu Thr Asn Lys Gly Ile Ala Glu Gly 210 215 220

Thr Phe Ser His Leu Thr Lys Leu Lys Glu Phe Ser Ile Val Arg Asn 225 230 235 240

Ser Leu Ser His Pro Pro Pro Asp Leu Pro Gly Thr His Leu Ile Arg 245 250 255

Leu Tyr Leu Gln Asp Asn Gln Ile Asn His Ile Pro Leu Thr Ala Phe 260 265 270

Ser Asn Leu Arg Lys Leu Glu Arg Leu Asp Ile Ser Asn Asn Gln Leu 275 280 285

Arg Met Leu Thr Gln Gly Val Phe Asp Asn Leu Ser Asn Leu Lys Gln 290 295 300

Leu Thr Ala Arg Asn Asn Pro Trp Phe Cys Asp Cys Ser Ile Lys Trp 305 310 315 320

Val Thr Glu Trp Leu Lys Tyr Ile Pro Ser Ser Leu Asn Val Arg Gly 325 330 335

Phe Met Cys Gln Gly Pro Glu Gln Val Arg Gly Met Ala Val Arg Glu
340 345 350

Leu Asn Met Asn Leu Leu Ser Cys Pro Thr Thr Pro Gly Leu Pro 355 360 365

Leu Phe Thr Pro Ala Pro Ser Thr Ala Ser Pro Thr Thr Gln Pro Pro 370 375 380

Thr Leu Ser Ile Pro Asn Pro Ser Arg Ser Tyr Thr Pro Pro Thr Pro 385 390 395 400

Thr Thr Ser Lys Leu Pro Thr Ile Pro Asp Trp Asp Gly Arg Glu Arg

<212> DNA

				405					410					415	
Val	Thr	Pro	Pro 420	Ile	Ser	Glu	Arg	Ile 425	Gln	Leu	Ser	Ile	His 430	Phe	Val
Asn	Asp	Thr 435	Ser	Ile	Gln	Val	Ser 440	Trp	Leu	Ser	Leu	Phe 445	Thr	Val	Met
Ala	Tyr 450	Lys	Leu	Thr	Trp	Val 455	Lys	Met	Gly	His	Ser 460	Leu	Val	Gly	Gly
Ile 465	Val	Gln	Glu	Arg	Ile 470	Val	Ser	Gly	Glu	Lys 475	Gln	His	Leu	Ser	Leu 480
Val	Asn	Leu	Glu	Pro 485	Arg	Ser	Thr	Tyr	Arg 490	Ile	Cys	Leu	Val	Pro 495	Leu
Asp	Ala	Phe	Asn 500	Tyr	Arg	Ala	Val	Glu 505	Asp	Thr	Ile	Cys	Ser 510	Glu	Ala
Thr	Thr	His 515	Ala	Ser	Tyr	Leu	Asn 520	Asn	Gly	Ser	Asn	Thr 525	Ala	Ser	Ser
His	Glu 530	Gln	Thr	Thr	Ser	His 535	Ser	Met	Gly	Ser	Pro 540	Phe	Leu	Leu	Ala
Gly 545	Leu	Ile	Gly	Gly	Ala 550	Val	Ile	Phe	Val	Leu 555	Val	Val	Leu	Leu	Ser 560
Val	Phe	Cys	Trp	His 565	Met	His	Lys	Lys	Gly 570	Arg	Tyr	Thr	Ser	Gln 575	Lys
Trp	Lys	Tyr	Asn 580	Arg	Gly	Arg	Arg	Lys 585	Asp	Asp	Tyr	Сув	Glu 590	Ala	Gly
Thr	Lys	Lys 595	Asp	Asn	Ser	Ile	Leu 600	Glu	Met	Thr	Glu	Thr 605	Ser	Phe	Glr
Ile	Val 610	Ser	Leu	Asn	Asn	Asp 615		Leu	Leu	Lys	Gly 620	Asp	Phe	Arg	Lev
Gln 625	Pro	Ile	Tyr	Thr	Pro 630	Asn	Gly	Gly	Ile	Asn 635	Tyr	Thr	Asp	Cys	His
Ile	Pro	Asn	Asn	Met 645	Arg	Tyr	Суз	Asn	Ser 650	Ser	Val	Pro	Asp	Leu 655	Glu
His	Cys	His	Thr 660												
<210	)> 29	9													
	l> 21														

<213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 29 cggtctacct gtatggcaac c	21
<210> 30 <211> 22 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 30 gcaggacaac cagataaacc ac	22
<210> 31 <211> 22 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 31 acgcagattt gagaaggctg tc	22
<210> 32 <211> 46 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 32 ttcacgggct gctcttgccc agctcttgaa gcttgaagag ctgcac	46
<210> 33 <211> 3449 <212> DNA <213> Homo sapiens	
<400> 33 acttggagca ageggeggeg geggagacag aggeagagge agaagetggg geteegteet	

gaggaagace egggtggetg egeceetgee tegetteeca ggegeeggeg getgeageet 180 tgcccctctt gctcgccttg aaaatggaaa agatgctcgc aggctgcttt ctgctgatcc 240 teggacagat egteeteete eetgeegagg eeagggageg gteaegtggg aggteeatet 300 ctaggggcag acacgctcgg acccaeccgc agacggccct tctggagagt tcctgtgaga 360 acaageggge agacetggtt tteateattg acageteteg cagtgteaac acceatqaet 420 atgcaaaggt caaggagttc atcgtggaca tcttgcaatt cttggacatt ggtcctgatg 480 tcaccegagt gggcctgctc caatatggca gcactgtcaa gaatgagtte tccctcaaga 540 ccttcaagag gaagtccgag gtggagcgtg ctgtcaagag gatgcggcat ctgtccacgg 600 gcaccatgac tgggctggcc atccagtatg ccctgaacat cgcattctca gaagcagagg 660 gggcccggcc cctgagggag aatgtgccac gggtcataat gatcgtgaca gatgqqaqac 720 ctcaggactc cgtggccgag gtggctgcta aggcacggga cacgggcatc ctaatctttg 780 ccattggtgt gggccaggta gacttcaaca ccttgaagtc cattgggagt gagccccatg 840 aggaccatgt cttccttgtg gccaatttca gccagattga gacgctgacc tccgtgttcc 900 agaagaagtt gtgcacggcc cacatgtgca gcaccctgga gcataactgt gcccacttct 960 gcateaacat ccctggctca tacgtctgca ggtgcaaaca aggctacatt ctcaactcgg 1020 atcagacgac ttgcagaatc caggatctgt gtgccatgga ggaccacaac tgtgagcagc 1080 tetgtgtgaa tgtgeeggge teettegtet geeagtgeta eagtggetae geeetggetg 1140 aggatgggaa gaggtgtgtg getgtggaet aetgtgeete agaaaaeeae ggatgtgaae 1200 atgagtgtgt aaatgctgat ggctcctacc tttgccagtg ccatgaagga tttgctctta 1260 acccagatga aaaaacgtgc acaaggatca actactgtgc actgaacaaa ccgggctgtg 1320 agcatgagtg cgtcaacatg gaggagaget actactgccg ctgccaccgt ggctacactc 1380 tggaccccaa tggcaaaacc tgcagccgag tggaccactg tgcacagcag gaccatggct 1440 gtgagcagct gtgtctgaac acggaggatt cettcgtctg ccagtgctca gaaggcttcc 1500 tcatcaacga ggacctcaag acctgctccc gggtggatta ctgcctgctg agtgaccatg 1560 gttgtgaata ctcctgtgtc aacatggaca gatcctttgc ctgtcagtgt cctgagggac 1620 acgtgctccg cagcgatggg aagacgtgtg caaaattgga ctcttgtgct ctgggggacc 1680 acggttgtga acattcgtgt gtaagcagtg aagattcgtt tgtgtgccag tgctttgaag 1740 gttatatact ccgtgaagat ggaaaaacct gcagaaggaa agatgtctgc caagctatag 1800 accatggctg tgaacacatt tgtgtgaaca gtgacgactc atacacgtgc gagtgcttgg 1860 agggattccg gctcgctgag gatgggaaac gctgccgaag gaaggatgtc tgcaaatcaa 1920 cccaccatgg ctgcgaacac atttgtgtta ataatgggaa ttcctacatc tgcaaatgct 1980 cagagggatt tgttctagct gaggacggaa gacggtgcaa gaaatgcact gaaggcccaa 2040 ttgacctggt ctttgtgatc gatggatcca agagtcttgg agaagagaat tttgaggtcg 2100 tgaagcagtt tgtcactgga attatagatt cettgacaat ttececcaaa geegetegag 2160 tggggctgct ccagtattcc acacaggtcc acacagagtt cactctgaga aacttcaact 2220 cagccaaaga catgaaaaaa gccgtggccc acatgaaata catgggaaag ggctctatga 2280 ctgggctggc cctgaaacac atgtttgaga gaagttttac ccaaggagaa ggggccaggc 2340 ccctttccac aagggtgccc agagcagcca ttgtgttcac cgacggacgg gctcaggatg 2400 acgtctccga gtgggccagt aaagccaagg ccaatggtat cactatgtat gctgttgggg 2460 taggaaaagc cattgaggag gaactacaag agattgcctc tgagcccaca aacaagcatc 2520 tettetatge egaagaette ageacaatgg atgagataag tgaaaaaete aagaaaggea 2580 tetgtgaage tetagaagae teegatggaa gacaggaete teeagcaggg gaactgeeaa 2640 aaacggtcca acagccaaca gaatctgagc cagtcaccat aaatatccaa gacctacttt 2700 cctgttctaa ttttgcagtg caacacagat atctgtttga agaagacaat cttttacggt 2760 ctacacaaaa gctttcccat tcaacaaaac cttcaggaag ccctttggaa gaaaaacacg 2820 atcaatgcaa atgtgaaaac cttataatgt tccagaacct tgcaaacgaa gaagtaagaa 2880 aattaacaca gegettagaa gaaatgacac agagaatgga ageeetggaa aategeetga 2940 gatacagatg aagattagaa atcgcgacac atttgtagtc attgtatcac ggattacaat 3000 gaacgcagtg cagagcccca aagctcaggc tattgttaaa tcaataatgt tgtgaagtaa 3060 aacaatcagt actgagaaac ctggtttgcc acagaacaaa gacaagaagt atacactaac 3120 ttgtataaat ttatctagga aaaaaatcct tcagaattct aagatgaatt taccaggtga 3180 gaatgaataa gctatgcaag gtattttgta atatactgtg gacacaactt gcttctgcct 3240 catcctgcct tagtgtgcaa tctcatttga ctatacgata aagtttgcac agtcttactt 3300 ctgtagaaca ctggccatag gaaatgctgt ttttttgtac tggactttac cttgatatat 3360 gtatatggat gtatgcataa aatcatagga catatgtact tgtggaacaa gttggatttt 3420 ttatacaata ttaaaattca ccacttcag 3449

<210> 34

<211> 915

<212> PRT

<213> Homo sapiens

<400> 34

Met Glu Lys Met Leu Ala Gly Cys Phe Leu Leu Ile Leu Gly Gln Ile 1 5 10 15

Val Leu Leu Pro Ala Glu Ala Arg Glu Arg Ser Arg Gly Arg Ser Ile 20 25 30

Ser Arg Gly Arg His Ala Arg Thr His Pro Gln Thr Ala Leu Leu Glu 35 40 45

Ser Ser Cys Glu Asn Lys Arg Ala Asp Leu Val Phe Ile Ile Asp Ser 50 55

Ser Arg Ser Val Asn Thr His Asp Tyr Ala Lys Val Lys Glu Phe Ile 65 70 75 80

Val Asp Ile Leu Gln Phe Leu Asp Ile Gly Pro Asp Val Thr Arg Val 85 90 95

Gly Leu Leu Gln Tyr Gly Ser Thr Val Lys Asn Glu Phe Ser Leu Lys

Thr Phe Lys Arg Lys Ser Glu Val Glu Arg Ala Val Lys Arg Met Arg 115 120 125

His Leu Ser Thr Gly Thr Met Thr Gly Leu Ala Ile Gln Tyr Ala Leu 130 135 140

Val Pro Arg Val Ile Met Ile Val Thr Asp Gly Arg Pro Gln Asp Ser 165 170 175

Val Ala Glu Val Ala Ala Lys Ala Arg Asp Thr Gly Ile Leu Ile Phe 180 185 190

Ala Ile Gly Val Gly Gln Val Asp Phe Asn Thr Leu Lys Ser Ile Gly 195 200 205

Ser Glu Pro His Glu Asp His Val Phe Leu Val Ala Asn Phe Ser Gln 210 215 220

Ile Glu Thr Leu Thr Ser Val Phe Gln Lys Lys Leu Cys Thr Ala His

225	;				230					235	5				240
Met	Cys	Ser	Thr	Leu 245	ı Glu	His	as Asn	Cys	Ala 250		Phe	cys	: Ile	Asn 255	
Pro	Gly	Ser	Tyr 260	Val	Суз	Arg	Cys	Lys 265		ı Gly	Tyr	·Ile	Leu 270		Ser
Asp	Gln	Thr 275	Thr	Cys	Arg	Ile	Gln 280	Asp	Leu	Cys	Ala	Met 285		. Asp	His
Asn	Cys 290	Glu	Gln	. Leu	Cys	Val 295		Val	Pro	Gly	Ser 300		· Val	Cys	Gln
Cys 305	Tyr	Ser	Gly	Tyr	Ala 310	Leu	Ala	Glu	Asp	Gly 315		Arg	Cys	Val	Ala 320
Val	Asp	Tyr	Cys	Ala 325	Ser	Glu	Asn	His	Gly 330		Glu	His	Glu	Cys 335	Val
Asn	Ala	Asp	Gly 340	Ser	Tyr	Leu	Cys	Gln 345	Cys	His	Glu	Gly	Phe 350	Ala	Leu
Asn	Pro	Asp 355	Glu	Lys	Thr	Cys	Thr 360	Arg	Ile	Asn	Tyr	Cys 365	Ala	Leu	Asn
Lys	Pro 370	Gly	Cys	Glu	His	Glu 375	Cys	Val	Asn	Met	Glu 380	Glu	Ser	Tyr	Tyr
Cys 385	Arg	Cys	His	Arg	Gly 390	Tyr	Thr	Leu	Asp	Pro 395	Asn	Gly	Lys	Thr	Cys 400
Ser	Arg	Val	Asp	His 405	Сув	Ala	Gln	Gln	Asp 410	His	Gly	Cys	Glu	Gln 415	Leu
Cys	Leu	Asn	Thr 420	Glu	Asp	Ser	Phe	Val 425	Cys	Gln	Cys	Ser	Glu 430	Gly	Phe
Leu	Ile	Asn 435	Glu	Asp	Leu	Lys	Thr 440	Cys	Ser	Arg	Val	Asp 445	Tyr	Cys	Leu
Leu	Ser 450	Asp	His	Gly	Cys	Glu 455	Tyr	Ser	Суз	Val	Asn 460	Met	Asp	Arg	Ser
Phe 465	Ala	Cys	Gln	Cys	Pro 470	Glu	Gly	His	Val	Leu 475	Arg	Ser	Asp	Gly	Lys 480
				485	Asp				490					495	
His	Ser	Cys	Val 500	Ser	Ser	Glu	Asp	Ser 505	Phe	Val	Cys	Gln	Cys 510	Phe	Glu

- Gly Tyr Ile Leu Arg Glu Asp Gly Lys Thr Cys Arg Arg Lys Asp Val 515 520 525
- Cys Gln Ala Ile Asp His Gly Cys Glu His Ile Cys Val Asn Ser Asp 530 535 540
- Asp Ser Tyr Thr Cys Glu Cys Leu Glu Gly Phe Arg Leu Ala Glu Asp 545 550 555 560
- Gly Lys Arg Cys Arg Arg Lys Asp Val Cys Lys Ser Thr His His Gly
  565 570 575
- Cys Glu His Ile Cys Val Asn Asn Gly Asn Ser Tyr Ile Cys Lys Cys 580 585 590
- Ser Glu Gly Phe Val Leu Ala Glu Asp Gly Arg Arg Cys Lys Lys Cys 595 600 605
- Thr Glu Gly Pro Ile Asp Leu Val Phe Val Ile Asp Gly Ser Lys Ser 610 615 620
- Leu Gly Glu Glu Asn Phe Glu Val Val Lys Gln Phe Val Thr Gly Ile 625 630 635 640
- Ile Asp Ser Leu Thr Ile Ser Pro Lys Ala Ala Arg Val Gly Leu Leu 645 650 655
- Gln Tyr Ser Thr Gln Val His Thr Glu Phe Thr Leu Arg Asn Phe Asn 660 665 670
- Ser Ala Lys Asp Met Lys Lys Ala Val Ala His Met Lys Tyr Met Gly 675 680 685
- Lys Gly Ser Met Thr Gly Leu Ala Leu Lys His Met Phe Glu Arg Ser 690 695 700
- Phe Thr Gln Gly Glu Gly Ala Arg Pro Leu Ser Thr Arg Val Pro Arg 705 710 715 720
- Ala Ala Ile Val Phe Thr Asp Gly Arg Ala Gln Asp Asp Val Ser Glu 725 730 735
- Trp Ala Ser Lys Ala Lys Ala Asn Gly Ile Thr Met Tyr Ala Val Gly 740 745 750
- Val Gly Lys Ala Ile Glu Glu Glu Leu Gln Glu Ile Ala Ser Glu Pro
  755 760 765
- Thr Asn Lys His Leu Phe Tyr Ala Glu Asp Phe Ser Thr Met Asp Glu 770 780
- Ile Ser Glu Lys Leu Lys Lys Gly Ile Cys Glu Ala Leu Glu Asp Ser 785 790 795 800

Asp (	Зlу	Arg	Gln	Asp 805	Ser	Pro	Ala	Gly	Glu 810	Leu	Pro	Lys	Thr	Val 815	Gln	
Gln E	Pro	Thr	Glu 820	Ser	Glu	Pro	Val	Thr 825	Ile	Asn	Ile	Gln	Asp 830	Leu	Leu	
Ser (	Cys	Ser 835	Asn	Phe	Ala	Val	Gln 840	His	Arg	Tyr	Leu	Phe 845	Glu	Glu	Asp	
Asn I	Leu 350	Leu	Arg	Ser	Thr	Gln 855	Lys	Leu	Ser	His	Ser 860	Thr	Lys	Pro	Ser	
Gly 8 865	Ser	Pro	Leu	Glu	Glu 870	Lys	His	Asp	Gln	Cys 875	Lys	Cys	Glu	Asn	Leu 880	
Ile M	let	Phe	Gln	Asn 885	Leu	Ala	Asn	Glu	Glu 890	Val	Arg	Lys	Leu	Thr 895	Gln	
Arg I	₄eu	Glu	Glu 900	Met	Thr	Gln	Arg	Met 905	Glu	Ala	Leu	Glu	Asn 910	Arg	Leu	
Arg T	yr	Arg 915														
<210><211><211><212><213>	23 DN	IA	.cia]	Sec	quenc	ce										
<220> <223>	De	scri igor	.ptic	on of	le pr	ific cobe	cial	Sequ	ience	e: Sy	nthe	etic				
<400> gtgac			tgtg	gaata	ıc to	:c										23
<210><211><212><212><213>	22 DN	A	cial	. Seg	uenc	:e										
<220> <223>	De	scri igon	ptic	n of otid	Art e pr	ific obe	ial	Sequ	ence	:: Sy	nthe	tic				
<400>			at at	2004	+ ~~											
acagc		yy c	ccat	ayet	r gg	l										22
<210><211>																
<211>		Δ														
<213>			cial	Seq	uenc	е										

```
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 37
gcctgtcagt gtcctgaggg acacgtgctc cgcagcgatg ggaag
                                                                   45
<210> 38
<211> 1813
<212> DNA
<213> Homo sapiens
<400> 38
ggagccgccc tgggtgtcag cggctcggct cccgcgcacg ctccggccgt cgcgcagcct 60
cggcacctgc aggtccgtgc gtcccgcgc tggcgcccct gactccgtcc cggccaggga 120
gggccatgat ttccctcccg gggcccctgg tgaccaactt gctgcggttt ttgttcctgg 180
ggctgagtgc cctcgcgccc ccctcgcggg cccagctgca actgcacttg cccgccaacc 240
ggttgcaggc ggtggaggga ggggaagtgg tgcttccagc gtggtacacc ttgcacqqqq 300
aggtgtcttc atcccagcca tgggaggtgc cctttgtgat gtggttcttc aaacagaaag 360
aaaaggagga tcaggtgttg tcctacatca atggggtcac aacaagcaaa cctggagtat 420
cettggteta etecatgece teeeggaace tgteeetgeg getggagggt etecaggaga 480
aagactetgg ceeetacage tgeteegtga atgtgcaaga caaacaagge aaatetaggg 540
gccacagcat caaaacctta gaactcaatg tactggttcc tccagctcct ccatcctgcc 600
gtctccaggg tgtgccccat gtgggggcaa acgtgaccct gagctgccag tctccaagga 660
gtaagcccgc tgtccaatac cagtgggatc ggcagcttcc atccttccaq actttctttq 720
caccagcatt agatgtcatc cgtgggtctt taagcctcac caacctttcg tcttccatgg 780
ctggagtcta tgtctgcaag gcccacaatg aggtgggcac tgcccaatgt aatgtgacgc 840
tggaagtgag cacagggeet ggagetgeag tggttgetgg agetgttgtg ggtaceetgg 900
ttggactggg gttgctggct gggctggtcc tcttgtacca ccgccggggc aaggccctgg 960
aggagecage caatgatate aaggaggatg ceattgetee ceqqaeeetq ceetqqeeca 1020
agageteaga caeaatetee aagaatggga ceettteete tgteacetee geacgageee 1080
teeggeeace ceatggeet ceeaggeetg gtgcattgac ceecacgeec agteteteca 1140
gccaggccct gccctcacca agactgccca cgacagatgg ggcccaccct caaccaatat 1200
cccccatccc tggtggggtt tcttcctctg gcttgagccg catgggtgct gtgcctgtga 1260
tggtgcctgc ccagagtcaa gctggctctc tggtatgatg accccaccac tcattggcta 1320
aaggatttgg ggtctctcct tcctataagg gtcacctcta gcacagaggc ctgagtcatg 1380
ggaaagagtc acactcctga cccttagtac tctgccccca cctctcttta ctgtgggaaa 1440
accateteag taagacetaa gtgteeagga gacagaagga gaagaggaag tggatetgga 1500
attgggagga gcctccaccc acccctgact cctccttatg aagccagctg ctgaaattag 1560
ctactcacca agagtgaggg gcagagactt ccagtcactg agtctcccag gcccccttga 1620
tetgtacece acceetatet aacaeeace ttggeteeca etceagetee etgtattgat 1680
ataacctgtc aggctggctt ggttaggttt tactggggca gaggataggg aatctcttat 1740
taaaactaac atgaaatatg tgttgttttc atttgcaaat ttaaataaag atacataatg 1800
tttgtatgaa aaa
                                                                  1813
<210> 39
<211> 390
<212> PRT
<213> Homo sapiens
<400> 39
Met Ile Ser Leu Pro Gly Pro Leu Val Thr Asn Leu Leu Arg Phe Leu
```

1				5					10					15	
Phe	Leu	Gly	Leu 20	Ser	Ala	Leu	Ala	Pro 25	Pro	Ser	Arg	Ala	Gln 30	Leu	Glr
Leu	His	Leu 35	Pro	Ala	Asn	Arg	Leu 40	Gln	Ala	Val	Glu	Gly 45	Gly	Glu	Val
Val	Leu 50	Pro	Ala	Trp	Tyr	Thr 55	Leu	His	Gly	Glu	Val 60	Ser	Ser	Ser	Glr
Pro 65	Trp	Glu	Val	Pro	Phe 70	Val	Met	Trp	Phe	Phe 75	Lys	Gln	Lys	Glu	Lys 80
Glu	Asp	Gln	Val	Leu 85	Ser	Tyr	Ile	Asn	Gly 90	Val	Thr	Thr	Ser	Lys 95	Pro
Gly	Val	Ser	Leu 100	Val	Tyr	Ser	Met	Pro 105	Ser	Arg	Asn	Leu	Ser 110	Leu	Arg
Leu	Glu	Gly 115	Leu	Gln	Glu	Lys	Asp 120	Ser	Gly	Pro	Tyr	Ser 125	Cys	Ser	Val
Asn	Val 130	Gln	Asp	Lys	Gln	Gly 135	Lys	Ser	Arg	Gly	His 140	Ser	Ile	Lys	Thr
Leu 145	Glu	Leu	Asn	Val	Leu 150	Val	Pro	Pro	Ala	Pro 155	Pro	Ser	Cys	Arg	Leu 160
Gln	Gly	Val	Pro	His 165	Val	Gly	Ala	Asn	Val 170	Thr	Leu	Ser	Cys	Gln 175	Ser
Pro	Arg	Ser	Lys 180	Pro	Ala	Val	Gln	Tyr 185	Gln	Trp	Asp	Arg	Gln 190	Leu	Pro
Ser	Phe	Gln 195	Thr	Phe	Phe	Ala	Pro 200	Ala	Leu	Asp	Val	Ile 205	Arg	Gly	Ser
Leu	Ser 210	Leu	Thr	Asn	Leu	Ser 215	Ser	Ser	Met	Ala	Gly 220	Val	Tyr	Val	Cys
Lys 225	Ala	His	Asn	Glu	Val 230	Gly	Thr	Ala	Gln	Cys 235	Asn	Val	Thr	Leu	Glu 240
Val	Ser	Thr	Gly	Pro 245	Gly	Ala	Ala	Val	Val 250	Ala	Gly	Ala	Val	Val 255	Gly
Thr	Leu	Val	Gly 260	Leu	Gly	Leu	Leu	Ala 265	Gly	Leu	Val	Leu	Leu 270	Tyr	His
Arg	Arg	Gly 275	Lys	Ala	Leu	Glu	Glu 280	Pro	Ala	Asn	Asp	Ile 285	Lys	Glu	Asp

```
Ala Ile Ala Pro Arg Thr Leu Pro Trp Pro Lys Ser Ser Asp Thr Ile
    290
Ser Lys Asn Gly Thr Leu Ser Ser Val Thr Ser Ala Arg Ala Leu Arg
                     310
                                          315
Pro Pro His Gly Pro Pro Arg Pro Gly Ala Leu Thr Pro Thr Pro Ser
                 325
                                     330
Leu Ser Ser Gln Ala Leu Pro Ser Pro Arg Leu Pro Thr Thr Asp Gly
            340
Ala His Pro Gln Pro Ile Ser Pro Ile Pro Gly Gly Val Ser Ser Ser
                             360
Gly Leu Ser Arg Met Gly Ala Val Pro Val Met Val Pro Ala Gln Ser
                         375
Gln Ala Gly Ser Leu Val
385
<210> 40
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 40
agggtctcca ggagaaagac tc
                                                                    22
<210> 41
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 41
attgtgggcc ttgcagacat agac
                                                                    24
<210> 42
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
```

<400> 42 ggccacagca tcaaaacctt agaactcaat gtactggttc ctccagctcc	50
<210> 43 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 43 gtgtgacaca gcgtgggc	18
<210> 44 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 44 gaccggcagg cttctgcg	18
<210> 45 <211> 25 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 45 cagcagette agecaceagg agtgg	25
<210> 46 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 46 ctgagccgtg ggctgcagtc tcgc	24
<210> 47	

```
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
ccgactacga ctggttcttc atcatgcagg atgacacata tqtqc
                                                                   45
<210> 48
<211> 2822
<212> DNA
<213> Homo sapiens
<400> 48
cgccaccact gcggccaccg ccaatgaaac gcctcccgct cctagtggtt ttttccactt 60
tgttgaattg ttcctatact caaaattgca ccaagacacc ttgtctccca aatgcaaaat 120
gtgaaatacg caatggaatt gaagcctgct attgcaacat gggattttca ggaaatggtg 180
tcacaatttg tgaagatgat aatgaatgtg gaaatttaac tcagtcctgt ggcgaaaatg 240
ctaattgcac taacacagaa ggaagttatt attgtatgtg tgtacctggc ttcagatcca 300
gcagtaacca agacaggttt atcactaatg atggaaccgt ctgtatagaa aatgtgaatg 360
caaactgcca tttagataat gtctgtatag ctgcaaatat taataaaact ttaacaaaaa 420
tcagatccat aaaagaacct gtggctttgc tacaagaagt ctatagaaat tctgtgacag 480
atctttcacc aacagatata attacatata tagaaatatt agctgaatca tcttcattac 540
taggttacaa gaacaacat atctcagcca aggacaccct ttctaactca actcttactg 600
aatttgtaaa aaccgtgaat aattttgttc aaagggatac atttgtagtt tgggacaagt 660
tatctgtgaa tcataggaga acacatctta caaaactcat gcacactgtt gaacaagcta 720
ctttaaggat atcccagagc ttccaaaaga ccacagagtt tqatacaaat tcaacqqata 780
tagctctcaa agttttcttt tttgattcat ataacatgaa acatattcat cctcatatga 840
atatggatgg agactacata aatatattc caaagagaaa agctgcatat gattcaaatg 900
gcaatgttgc agttgcattt ttatattata agagtattgg tcctttgctt tcatcatctg 960
acaacttctt attgaaacct caaaattatg ataattctga agaggaggaa agagtcatat 1020
cttcagtaat ttcagtctca atgagctcaa acccacccac attatatgaa cttgaaaaaa 1080
taacatttac attaagtcat cgaaaggtca cagataggta taggagtcta tgtgcatttt 1140
ggaattactc acctgatacc atgaatggca gctggtcttc agagggctgt gagctgacat 1200
actcaaatga gacccacacc tcatgccgct gtaatcacct gacacatttt gcaattttga 1260
tgtcctctgg tccttccatt ggtattaaag attataatat tcttacaagg atcactcaac 1320
taggaataat tatttcactg atttgtcttg ccatatgcat ttttaccttc tggttcttca 1380
gtgaaattca aagcaccagg acaacaattc acaaaaatct ttgctgtagc ctatttcttg 1440
ctgaacttgt ttttcttgtt gggatcaata caaatactaa taagctcttc tgttcaatca 1500
ttgccggact gctacactac ttcttttag ctgcttttgc atggatgtgc attgaaggca 1560
tacatctcta tctcattgtt gtgggtgtca tctacaacaa gggatttttg cacaagaatt 1620
tttatatett tggetateta ageceageeg tggtagttgg atttteggea geactaggat 1680
acagatatta tggcacaacc aaagtatgtt ggcttagcac cgaaaacaac tttatttgga 1740
gttttatagg accagcatgc ctaatcattc ttgttaatct cttggctttt ggagtcatca 1800
tatacaaagt ttttcgtcac actgcagggt tgaaaccaga agttagttgc tttgagaaca 1860
taaggtettg tgcaagagga geeetegete ttetgtteet teteggeace acetggatet 1920
ttggggttct ccatgttgtg cacgcatcag tggttacagc ttacctcttc acagtcagca 1980
atgctttcca ggggatgttc attttttat tcctgtgtgt tttatctaga aagattcaag 2040
aagaatatta cagattgttc aaaaatgtcc cctgttgttt tggatgttta aggtaaacat 2100
agagaatggt ggataattac aactgcacaa aaataaaaat tccaagctgt ggatgaccaa 2160
```

```
tgtataaaaa tgactcatca aattatccaa ttattaacta ctagacaaaa agtattttaa 2220
atcagttttt ctgtttatgc tataggaact gtagataata aggtaaaatt atgtatcata 2280
tagatatact atgtttttct atgtgaaata gttctgtcaa aaatagtatt gcagatattt 2340
ggaaagtaat tggtttctca ggagtgatat cactgcaccc aaggaaagat tttctttcta 2400
acacgagaag tatatgaatg teetgaagga aaccaetgge ttgatattte tgtgaetegt 2460
gttgcctttg aaactagtcc cctaccacct cggtaatgag ctccattaca gaaagtggaa 2520
cataagagaa tgaaggggca gaatatcaaa cagtgaaaag ggaatgataa gatgtatttt 2580
gaatgaactg ttttttctgt agactagctg agaaattgtt gacataaaat aaagaattga 2640
agaaacacat tttaccattt tgtgaattgt tctgaactta aatqtccact aaaacaactt 2700
agacttctgt ttgctaaatc tgtttctttt tctaatattc taaaaaaaaa aaaaaggttt 2760
2822
<210> 49
<211> 690
```

<212> PRT

<213> Homo sapiens

<400> 49

Met Lys Arg Leu Pro Leu Leu Val Val Phe Ser Thr Leu Leu Asn Cys 10

Ser Tyr Thr Gln Asn Cys Thr Lys Thr Pro Cys Leu Pro Asn Ala Lys

Cys Glu Ile Arg Asn Gly Ile Glu Ala Cys Tyr Cys Asn Met Gly Phe

Ser Gly Asn Gly Val Thr Ile Cys Glu Asp Asp Asn Glu Cys Gly Asn 50

Leu Thr Gln Ser Cys Gly Glu Asn Ala Asn Cys Thr Asn Thr Glu Gly

Ser Tyr Tyr Cys Met Cys Val Pro Gly Phe Arg Ser Ser Ser Asn Gln

Asp Arg Phe Ile Thr Asn Asp Gly Thr Val Cys Ile Glu Asn Val Asn 105

Ala Asn Cys His Leu Asp Asn Val Cys Ile Ala Ala Asn Ile Asn Lys 120

Thr Leu Thr Lys Ile Arg Ser Ile Lys Glu Pro Val Ala Leu Leu Gln 130 135 140

Glu Val Tyr Arg Asn Ser Val Thr Asp Leu Ser Pro Thr Asp Ile Ile 155 160

Thr Tyr Ile Glu Ile Leu Ala Glu Ser Ser Ser Leu Leu Gly Tyr Lys 165 170

Asn Asn Thr Ile Ser Ala Lys Asp Thr Leu Ser Asn Ser Thr Leu Thr

			180					185					190		
Glu	Phe	Val 195	Lys	Thr	Val	Asn	Asn 200	Phe	Val	Gln	Arg	Asp 205	Thr	Phe	Val
Val	Trp 210	Asp	Lys	Leu	Ser	Val 215	Asn	His	Arg	Arg	Thr 220	His	Leu	Thr	Lys
Leu 225	Met	His	Thr	Val	Glu 230	Gln	Ala	Thr	Leu	Arg 235	Ile	Ser	Gln	Ser	Phe 240
Gln	Lys	Thr	Thr	Glu 245	Phe	Asp	Thr	Asn	Ser 250	Thr	Asp	Ile	Ala	Leu 255	Lys
Val	Phe	Phe	Phe 260	Asp	Ser	Tyr	Asn	Met 265	Lys	His	Ile	His	Pro 270	His	Met
Asn	Met	Asp 275	Gly	Asp	Tyr	Ile	Asn 280	Ile	Phe	Pro	Lys	Arg 285	Lys	Ala	Ala
Tyr	Asp 290	Ser	Asn	Gly	Asn	Val 295	Ala	Val	Ala	Phe	Leu 300	Tyr	Tyr	Lys	Ser
Ile 305	Gly	Pro	Leu	Leu	Ser 310	Ser	Ser	Asp	Asn	Phe 315	Leu	Leu	Lys	Pro	Gln 320
Asn	Tyr	Asp	Asn	Ser 325	Glu	Glu	Glu	Glu	Arg 330	Val	Ile	Ser	Ser	Val 335	Ile
Ser	Val	Ser	Met 340	Ser	Ser	Asn	Pro	Pro 345	Thr	Leu	Tyr	Glu	Leu 350	Glu	Lys
Ile	Thr	Phe 355	Thr	Leu	Ser	His	Arg 360	Lys	Val	Thr	Asp	Arg 365	Tyr	Arg	Ser
Leu	Cys 370	Ala	Phe	Trp	Asn	Tyr 375	Ser	Pro	Asp	Thr	Met 380	Asn	Gly	Ser	Trp
Ser 385	Ser	Glu	Gly		Glu 390		Thr	Tyr	Ser	Asn 395	Glu	Thr	His	Thr	Ser 400
Cys	Arg	Cys	Asn	His 405	Leu	Thr	His	Phe	Ala 410	Ile	Leu	Met	Ser	Ser 415	Gly
Pro	Ser	Ile	Gly 420	Ile	Lys	Asp	Tyr	Asn 425	Ile	Leu	Thr	Arg	Ile 430	Thr	Gln
Leu	Gly	Ile 435	Ile	Ile	Ser	Leu	Ile 440	Cys	Leu	Ala	Ile	Cys 445	Ile	Phe	Thr
Phe	Trp 450	Phe	Phe	Ser	Glu	Ile 455	Gln	Ser	Thr	Arg	Thr	Thr	Ile	His	Lys

Asn Leu Cys Cys Ser Leu Phe Leu Ala Glu Leu Val Phe Leu Val Gly
465 470 475 480

Ile Asn Thr Asn Thr Asn Lys Leu Phe Cys Ser Ile Ile Ala Gly Leu
485 490 495

Leu His Tyr Phe Phe Leu Ala Ala Phe Ala Trp Met Cys Ile Glu Gly 500 505 510

Ile His Leu Tyr Leu Ile Val Val Gly Val Ile Tyr Asn Lys Gly Phe 515 520 525

Leu His Lys Asn Phe Tyr Ile Phe Gly Tyr Leu Ser Pro Ala Val Val 530 535 540

Val Gly Phe Ser Ala Ala Leu Gly Tyr Arg Tyr Tyr Gly Thr Thr Lys 545 550 555 560

Val Cys Trp Leu Ser Thr Glu Asn Asn Phe Ile Trp Ser Phe Ile Gly
565 570 575

Pro Ala Cys Leu Ile Ile Leu Val Asn Leu Leu Ala Phe Gly Val Ile 580 585 590

Ile Tyr Lys Val Phe Arg His Thr Ala Gly Leu Lys Pro Glu Val Ser

Cys Phe Glu Asn Ile Arg Ser Cys Ala Arg Gly Ala Leu Ala Leu Leu 610 615 620

Phe Leu Leu Gly Thr Thr Trp Ile Phe Gly Val Leu His Val Val His 625 630 635 640

Ala Ser Val Val Thr Ala Tyr Leu Phe Thr Val Ser Asn Ala Phe Gln 645 650 655

Gly Met Phe Ile Phe Leu Phe Leu Cys Val Leu Ser Arg Lys Ile Gln 660 665 670

Glu Glu Tyr Tyr Arg Leu Phe Lys Asn Val Pro Cys Cys Phe Gly Cys 675 680 685

Leu Arg 690

<210> 50

<211> 589

<212> DNA

<213> Homo sapiens

<220>

<221> modified\_base

<222> (61)

3.

```
<223> a, t, c or g
<400> 50
tggaaacata tcctccctca tatgaatatg gatggagact acataaatat atttccaaag 60
ngaaaagccg gcatatggat tcaaatggca atgttgcagt tgcattttta tattataaga 120
gtattggtcc ctttgctttc atcatctgac aacttcttat tgaaacctca aaattatgat 180
aattctgaag aggaggaaag agtcatatct tcagtaattt cagtctcaat gagctcaaac 240
ccacccacat tatatgaact tgaaaaaata acatttacat taagtcatcg aaaggtcaca 300
gataggtata ggagtctatg tggcattttg gaatactcac ctgataccat gaatggcagc 360
tggtcttcag agggctgtga gctgacatac tcaaatgaga cccacacctc atgccgctgt 420
aatcacctga cacattttgc aattttgatg teetetggte etteeattgg tattaaagat 480
tataatattc ttacaaggat cactcaacta ggaataatta tttcactgat ttgtcttgcc 540
atatgcattt ttaccttctg gttcttcagt gaaattcaaa gcaccagga
                                                                    589
<210> 51
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 51
ggtaatgagc tccattacag
                                                                    20
<210> 52
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 52
ggagtagaaa gcgcatgg
                                                                   18
<210> 53
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 53
cacctgatac catgaatggc ag
                                                                   22
<210> 54
<211> 18
<212> DNA
```

```
<213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 <400> 54
 cgagctcgaa ttaattcg
                                                                    18
 <210> 55
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
<400> 55
ggatctcctg agctcagg
                                                                    18
<210> 56
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 56
cctagttgag tgatccttqt aaq
                                                                    23
<210> 57
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 57
atgagaccca cacctcatgc cgctgtaatc acctgacaca ttttgcaatt
                                                                    50
<210> 58
<211> 2137
<212> DNA
<213> Homo sapiens
<400> 58
gctcccagcc aagaacctcg gggccgctgc gcggtgggga ggagttcccc gaaacccggc 60
cgctaagcga ggcctcctcc tcccgcagat ccgaacggcc tgggcggggt caccccggct 120
```

```
gggacaagaa gccgccgcct gcctgcccgg gcccggggag ggggctgggg ctggggccgg 180
aggcggggtg tgagtgggtg tgtgcggggg gcggaggctt gatgcaatcc cgataagaaa 240
tgctcgggtg tcttgggcac ctacccgtgg ggcccgtaag gcgctactat ataaqqctqc 300
cggcccggag ccgccgcgcc gtcagagcag gagcgctgcg tccaggatct agggccacga 360
ccatcccaac ccggcactca cagccccgca gcgcatcccg gtcgccgccc agcctcccgc 420
acccccatcg ccggagctgc gccgagagcc ccagggaggt gccatgcgga gcgggtgtgt 480
ggtggtccac gtatggatcc tggccggcct ctggctggcc gtggccgggc gcccctcgc 540
cttctcggac gcggggcccc acgtgcacta cggctggggc gaccccatcc gcctgcggca 600
cctgtacacc tccggccccc acgggctctc cagctgcttc ctgcgcatcc gtgccgacgg 660
cgtcgtggac tgcgcgcggg gccagagcgc gcacagtttg ctggagatca aggcagtcgc 720
tctgcggacc gtggccatca agggcgtgca cagcgtgcgg tacctctgca tgggcgccga 780
cggcaagatg caggggctgc ttcagtactc ggaggaagac tgtgctttcg aggaggagat 840
ccgcccagat ggctacaatg tgtaccgatc cgagaagcac cgcctcccgg tctccctgag 900
cagtgccaaa cagcggcagc tgtacaagaa cagaggcttt cttccactct ctcatttcct 960
gcccatgctg cccatggtcc cagaggagcc tgaggacctc aggggccact tggaatctga 1020
catgitetet tegeceetgg agacegacag catggaceca titgggettg teaceggact 1080
ggaggccgtg aggagtccca gctttgagaa gtaactgaga ccatgcccgg gcctcttcac 1140
tgctgccagg ggctgtggta cctgcagcgt gggggacgtg cttctacaag aacagtcctg 1200
agtccacgtt ctgtttagct ttaggaagaa acatctagaa gttgtacata ttcagagttt 1260
tccattggca gtgccagttt ctagccaata gacttgtctg atcataacat tgtaagcctg 1320
tagettgeec agetgetgee tgggeececa ttetgeteec tegaggttge tggacaaget 1380
gctgcactgt ctcagttctg cttgaatacc tccatcgatg gggaactcac ttcctttgga 1440
aaaattetta tgtcaagetg aaatteteta atttttete ateaetteee caggageage 1500
cagaagacag gcagtagttt taatttcagg aacaggtgat ccactctgta aaacagcagg 1560
taaatttcac tcaaccccat gtgggaattg atctatatct ctacttccag ggaccatttg 1620
cccttcccaa atccctccag gccagaactg actggagcag gcatggccca ccaggcttca 1680
ggagtagggg aagcetggag ccccactcca gccctgggac aacttgagaa ttccccctga 1740
ggccagttct gtcatggatg ctgtcctgag aataacttgc tgtcccggtg tcacctgctt 1800
ccatctccca gcccaccage cctctgccca cctcacatgc ctccccatgg attggggcct 1860
cccaggeece ccaecttatg tcaacctgca cttettgtte aaaaatcagg aaaagaaaag 1920
atttgaagac cccaagtctt gtcaataact tgctgtgtgg aagcagcggg ggaagaccta 1980
gaaccctttc cccagcactt ggttttccaa catgatattt atgagtaatt tattttgata 2040
tgtacatctc ttattttctt acattattta tgcccccaaa ttatatttat gtatgtaagt 2100
gaggtttgtt ttgtatatta aaatggagtt tgtttgt
                                                                  2137
<210> 59
<211> 216
<212> PRT
<213> Homo sapiens
<400> 59
Met Arg Ser Gly Cys Val Val Val His Val Trp Ile Leu Ala Gly Leu
                                                         15
```

Trp Leu Ala Val Ala Gly Arg Pro Leu Ala Phe Ser Asp Ala Gly Pro

His Val His Tyr Gly Trp Gly Asp Pro Ile Arg Leu Arg His Leu Tyr 40

Thr Ser Gly Pro His Gly Leu Ser Ser Cys Phe Leu Arg Ile Arg Ala 50

Asp 65	Gly	Val	Val	Asp	Cys 70	Ala	Arg	Gly	Gln	Ser 75	Ala	His	Ser	Leu	Leu 80	
Glu	Ile	Lys	Ala	Val 85	Ala	Leu	Arg	Thr	Val 90	Ala	Ile	Lys	Gly	Val 95	His	
Ser	Val	Arg	Tyr 100	Leu	Cys	Met	Gly	Ala 105	Asp	Gly	Lys	Met	Gln 110	Gly	Leu	
Leu	Gln	Tyr 115	Ser	Glu	Glu	Asp	Cys 120	Ala	Phe	Glu	Glu	Glu 125	Ile	Arg	Pro	
Asp	Gly 130	Tyr	Asn	Val	Tyr	Arg 135	Ser	Glu	Lys	His	Arg 140	Leu	Pro	Val	Ser	
Leu 145	Ser	Ser	Ala	Lys	Gln 150	Arg	Gln	Leu	Tyr	Lys 155	Asn	Arg	Gly	Phe	Leu 160	
Pro	Leu	Ser	His	Phe 165	Leu	Pro	Met	Leu	Pro 170	Met	Val	Pro	Glu	Glu 175	Pro	
Glu	Asp	Leu	Arg 180	Gly	His	Leu	Glu	Ser 185	Asp	Met	Phe	Ser	Ser 190	Pro	Leu	
Glu	Thr	Asp 195	Ser	Met	Asp	Pro	Phe 200	Gly	Leu	Val	Thr	Gly 205	Leu	Glu	Ala	
Val	Arg 210	Ser	Pro	Ser	Phe	Glu 215	Lys									
<210	)> 60	)														
	.> 26															
	> DN		.cial	Sec	niona	10										
7210	, AI	CALI	.c.a.	. Beg	luenc	E										
<220				_												
<223	ol ol	igon	ptic ucle	n of otid	: Art le pr	obe	ial	Sequ	ience	: Sy	nthe	tic				
	> 60															
atco	gccc	ag a	itggo	taca	a tg	tgta	•									26
	> 61															
<211 <212																
			cial	Seq	uenc	е										
<220	>															
<223	> De ol	scri igon	ptio ucle	n of otid	Art e pr	ific obe	ial	Sequ	ence	: Sy	nthe	tic				
<400	> 61															
gcct	cccg	gt c	tccc	tgag	c ag	tgcc	aaac	agc	ggca	gtg	ta					42

```
<210> 62
<211> 22
 <212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 62
ccagtccggt gacaagccca aa
                                                                 22
<210> 63
<211> 1295
<212> DNA
<213> Homo sapiens
<400> 63
cccagaagtt caagggcccc cggcctcctg cgctcctgcc gccgggaccc tcgacctcct 60
cagagcagcc ggctgccgcc ccgggaagat ggcgaggagg agccgccacc gcctcctcct 120
gctgctgctg cgctacctgg tggtcgccct gggctatcat aaggcctatg ggttttctgc 180
cccaaaagac caacaagtag tcacagcagt agagtaccaa gaggctattt tagcctgcaa 240
aaccccaaag aagactgttt cctccagatt agagtggaag aaactgggtc ggagtgtctc 300
ctttgtctac tatcaacaga ctcttcaagg tgattttaaa aatcgagctg agatgataga 360
tttcaatatc cggatcaaaa atgtgacaag aagtgatgcg gggaaatatc gttgtgaagt 420
tagtgcccca tctgagcaag gccaaaacct ggaagaggat acagtcactc tggaagtatt 480
agtggctcca gcagttccat catgtgaagt accetettet getetgagtg gaactgtggt 540
agagctacga tgtcaagaca aagaagggaa tccagctcct gaatacacat ggtttaagga 600
tggcatccgt ttgctagaaa atcccagact tggctcccaa agcaccaaca gctcatacac 660
aatgaataca aaaactggaa ctctgcaatt taatactgtt tccaaactgg acactggaga 720
atattcctgt gaagcccgca attctgttgg atatcgcagg tgtcctggga aacgaatgca 780
agtagatgat ctcaacataa gtggcatcat agcagccgta gtagttgtgg ccttagtgat 840
ttccgtttgt ggccttggtg tatgctatgc tcagaggaaa ggctactttt caaaagaaac 900
ctccttccag aagagtaatt cttcatctaa agccacgaca atgagtgaaa atgtgcagtg 960
gctcacgcct gtaatcccag cactttggaa ggccgcggcg ggcggatcac gaggtcagga 1020
gttctagacc agtctggcca atatggtgaa accccatctc tactaaaata caaaaattag 1080
ctgggcatgg tggcatgtgc ctgcagttcc agctgcttgg gagacaggag aatcacttga 1140
accegggagg eggaggttge agtgagetga gateaegeea etgeagteea geetgggtaa 1200
tgtagaattc ttacaataaa tatagcttga tattc
                                                                1295
<210> 64
<211> 312
<212> PRT
<213> Homo sapiens
<400> 64
Met Ala Arg Arg Ser Arg His Arg Leu Leu Leu Leu Leu Arg Tyr
Leu Val Val Ala Leu Gly Tyr His Lys Ala Tyr Gly Phe Ser Ala Pro
```

- Lys Asp Gln Gln Val Val Thr Ala Val Glu Tyr Gln Glu Ala Ile Leu 35 40 45
- Ala Cys Lys Thr Pro Lys Lys Thr Val Ser Ser Arg Leu Glu Trp Lys
  50 55 60
- Lys Leu Gly Arg Ser Val Ser Phe Val Tyr Tyr Gln Gln Thr Leu Gln 65 70 75 80
- Gly Asp Phe Lys Asn Arg Ala Glu Met Ile Asp Phe Asn Ile Arg Ile
  85 90 95
- Lys Asn Val Thr Arg Ser Asp Ala Gly Lys Tyr Arg Cys Glu Val Ser 100 105 110
- Ala Pro Ser Glu Gln Gly Gln Asn Leu Glu Glu Asp Thr Val Thr Leu 115 120 125
- Glu Val Leu Val Ala Pro Ala Val Pro Ser Cys Glu Val Pro Ser Ser 130 135 140
- Ala Leu Ser Gly Thr Val Val Glu Leu Arg Cys Gln Asp Lys Glu Gly 145 150 155 160
- Asn Pro Ala Pro Glu Tyr Thr Trp Phe Lys Asp Gly Ile Arg Leu Leu 165 170 175
- Glu Asn Pro Arg Leu Gly Ser Gln Ser Thr Asn Ser Ser Tyr Thr Met 180 185 190
- Asn Thr Lys Thr Gly Thr Leu Gln Phe Asn Thr Val Ser Lys Leu Asp 195 200 205
- Thr Gly Glu Tyr Ser Cys Glu Ala Arg Asn Ser Val Gly Tyr Arg Arg 210 215 220
- Cys Pro Gly Lys Arg Met Gln Val Asp Asp Leu Asn Ile Ser Gly Ile 225 230 235 240
- Ile Ala Ala Val Val Val Ala Leu Val Ile Ser Val Cys Gly Leu 245 250 255
- Gly Val Cys Tyr Ala Gln Arg Lys Gly Tyr Phe Ser Lys Glu Thr Ser 260 265 270
- Phe Gln Lys Ser Asn Ser Ser Ser Lys Ala Thr Thr Met Ser Glu Asn 275 280 285
- Val Gln Trp Leu Thr Pro Val Ile Pro Ala Leu Trp Lys Ala Ala Ala 290 295 300
- Gly Gly Ser Arg Gly Gln Glu Phe

```
305
                     310
<210> 65
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 65
atcgttgtga agttagtgcc cc
                                                                   22
<210> 66
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 66
acctgcgata tccaacagaa ttg
                                                                   23
<210> 67
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 67
ggaagaggat acagtcactc tggaagtatt agtggctcca gcagttcc
                                                                   48
<210> 68
<211> 2639
<212> DNA
<213> Homo sapiens
<400> 68
gacatcggag gtgggctagc actgaaactg cttttcaaga cgaggaagag gaggagaaag 60
agaaagaaga ggaagatgtt gggcaacatt tatttaacat gctccacagc ccggaccctg 120
gcatcatgct gctattcctg caaatactga agaagcatgg gatttaaata ttttacttct 180
aaataaatga attactcaat ctcctatgac catctataca tactccacct tcaaaaagta 240
catcaatatt atatcattaa ggaaatagta accttctctt ctccaatatg catgacattt 300
ttggacaatg caattgtggc actggcactt atttcagtga agaaaaactt tgtggttcta 360
tggcattcat catttgacaa atgcaagcat cttccttatc aatcagctcc tattgaactt 420
actagcactg actgtggaat ccttaagggc ccattacatt tctgaagaag aaagctaaga 480
tgaaggacat gccactccga attcatgtgc tacttggcct agctatcact acactagtac 540
```

```
aagetgtaga taaaaaagtg gattgteeac ggttatgtae gtgtgaaate aggeettggt 600
 ttacacccag atccatttat atggaagcat ctacagtgga ttgtaatgat ttaggtcttt 660
 taactttccc agccagattg ccagctaaca cacagattct tctcctacag actaacaata 720
 ttgcaaaaat tgaatactcc acagactttc cagtaaacct tactggcctg gatttatctc 780
 aaaacaattt atcttcagtc accaatatta atgtaaaaaa gatgcctcag ctcctttctg 840
 tgtacctaga ggaaaacaaa cttactgaac tgcctgaaaa atgtctgtcc gaactgagca 900
 acttacaaga actctatatt aatcacaact tgctttctac aatttcacct ggagccttta 960
ttggcctaca taatcttctt cgacttcatc tcaattcaaa tagattgcag atgatcaaca 1020
gtaagtggtt tgatgctctt ccaaatctag agattctgat gattggggaa aatccaatta 1080
tcagaatcaa agacatgaac tttaagcctc ttatcaatct tcgcagcctg gttatagctg 1140
gtataaacct cacagaaata ccagataacg ccttggttgg actggaaaac ttagaaagca 1200
tctcttttta cgataacagg cttattaaag taccccatgt tgctcttcaa aaagttgtaa 1260
atctcaaatt tttggatcta aataaaaatc ctattaatag aatacgaagg ggtgatttta 1320
gcaatatgct acacttaaaa gagttgggga taaataatat gcctgagctg atttccatcg 1380
atagtettge tgtggataac etgecagatt taagaaaaat agaagetaet aacaaceeta 1440
gattgtctta cattcacccc aatgcatttt tcagactccc caagctggaa tcactcatgc 1500
tgaacagcaa tgctctcagt gccctgtacc atggtaccat tgagtctctg ccaaacctca 1560
aggaaatcag catacacagt aaccccatca ggtgtgactg tgtcatccgt tggatgaaca 1620
tgaacaaaac caacattcga ttcatggagc cagattcact gttttgcgtg gacccacctg 1680
aattccaagg tcagaatgtt cggcaagtgc atttcaggga catgatggaa atttgtctcc 1740
ctcttatagc tcctgagagc tttccttcta atctaaatgt agaagctggg agctatgttt 1800
cctttcactg tagagctact gcagaaccac agcctgaaat ctactggata acaccttctg 1860
gtcaaaaact cttgcctaat accctgacag acaagttcta tgtccattct gagggaacac 1920
tagatataaa tggcgtaact cccaaagaag ggggtttata tacttgtata gcaactaacc 1980
tagttggcgc tgacttgaag tctgttatga tcaaagtgga tggatctttt ccacaagata 2040
acaatggctc tttgaatatt aaaataagag atattcaggc caattcagtt ttggtgtcct 2100
ggaaagcaag ttctaaaatt ctcaaatcta gtgttaaatg gacagccttt gtcaagactg 2160
aaaattctca tgctgcgcaa agtgctcgaa taccatctga tgtcaaggta tataatctta 2220
ctcatctgaa tccatcaact gagtataaaa tttgtattga tattcccacc atctatcaga 2280
aaaacagaaa aaaatgtgta aatgtcacca ccaaaggttt gcaccctgat caaaaagagt 2340
atgaaaagaa taataccaca acacttatgg cctgtcttgg aggccttctg gggattattg 2400
gtgtgatatg tcttatcagc tgcctctctc cagaaatgaa ctgtgatggt ggacacagct 2460
atgtgaggaa ttacttacag aaaccaacct ttgcattagg tgagctttat cctcctctga 2520
taaatctctg ggaagcagga aaagaaaaa gtacatcact gaaagtaaaa gcaactgtta 2580
taggtttacc aacaaatatg tcctaaaaac caccaaggaa acctactcca aaaatgaac 2639
<210> 69
<211> 708
<212> PRT
<213> Homo sapiens
<400> 69
Met Lys Asp Met Pro Leu Arg Ile His Val Leu Leu Gly Leu Ala Ile
Thr Thr Leu Val Gln Ala Val Asp Lys Lys Val Asp Cys Pro Arg Leu
             20
                                 25
Cys Thr Cys Glu Ile Arg Pro Trp Phe Thr Pro Arg Ser Ile Tyr Met
Glu Ala Ser Thr Val Asp Cys Asn Asp Leu Gly Leu Leu Thr Phe Pro
```

- Ala Arg Leu Pro Ala Asn Thr Gln Ile Leu Leu Leu Gln Thr Asn Asn 65 70 75 80
- Ile Ala Lys Ile Glu Tyr Ser Thr Asp Phe Pro Val Asn Leu Thr Gly
  85 90 95
- Leu Asp Leu Ser Gln Asn Asn Leu Ser Ser Val Thr Asn Ile Asn Val
- Lys Lys Met Pro Gln Leu Leu Ser Val Tyr Leu Glu Glu Asn Lys Leu
  115 120 125
- Thr Glu Leu Pro Glu Lys Cys Leu Ser Glu Leu Ser Asn Leu Gln Glu 130 135 140
- Leu Tyr Ile Asn His Asn Leu Leu Ser Thr Ile Ser Pro Gly Ala Phe 145 150 155 160
- Ile Gly Leu His Asn Leu Leu Arg Leu His Leu Asn Ser Asn Arg Leu 165 170 175
- Gln Met Ile Asn Ser Lys Trp Phe Asp Ala Leu Pro Asn Leu Glu Ile 180 185 190
- Leu Met Ile Gly Glu Asn Pro Ile Ile Arg Ile Lys Asp Met Asn Phe 195 200 205
- Lys Pro Leu Ile Asn Leu Arg Ser Leu Val Ile Ala Gly Ile Asn Leu 210 215 220
- Thr Glu Ile Pro Asp Asn Ala Leu Val Gly Leu Glu Asn Leu Glu Ser 225 230 235 240
- Ile Ser Phe Tyr Asp Asn Arg Leu Ile Lys Val Pro His Val Ala Leu 245 250 255
- Gln Lys Val Val Asn Leu Lys Phe Leu Asp Leu Asn Lys Asn Pro Ile 260 265 270
- Asn Arg Ile Arg Arg Gly Asp Phe Ser Asn Met Leu His Leu Lys Glu 275 280 285
- Leu Gly Ile Asn Asn Met Pro Glu Leu Ile Ser Ile Asp Ser Leu Ala 290 295 300
- Val Asp Asn Leu Pro Asp Leu Arg Lys Ile Glu Ala Thr Asn Asn Pro 305 310 315 320
- Arg Leu Ser Tyr Ile His Pro Asn Ala Phe Phe Arg Leu Pro Lys Leu 325 330 335
- Glu Ser Leu Met Leu Asn Ser Asn Ala Leu Ser Ala Leu Tyr His Gly

			340					345					350		
Thr	Ile	Glu 355		Leu	Pro	Asn	Leu 360	Lys	Glu	Ile	Ser	Ile 365	His	Ser	Asr
Pro	Ile 370	Arg	Cys	Asp	Cys	Val 375	Ile	Arg	Trp	Met	Asn 380	Met	Asn	Lys	Thr
Asn 385	Ile	Arg	Phe	Met	Glu 390	Pro	Asp	Ser	Leu	Phe 395	Cys	Val	Asp	Pro	Pro
Glu	Phe	Gln	Gly	Gln 405	Asn	Val	Arg	Gln	Val 410	His	Phe	Arg	Asp	Met 415	Met
Glu	Ile	Суз	Leu 420	Pro	Leu	Ile	Ala	Pro 425	Glu	Ser	Phe	Pro	Ser 430	Asn	Leu
Asn	Val	Glu 435	Ala	Gly	Ser	Tyr	Val 440	Ser	Phe	His	Cys	Arg 445	Ala	Thr	Ala
Glu	Pro 450	Gln	Pro	Glu	Ile	Tyr 455	Trp	Ile	Thr	Pro	Ser 460	Gly	Gln	Lys	Leu
Leu 465	Pro	Asn	Thr	Leu	Thr 470	Asp	Lys	Phe	Tyr	Val 475	His	Ser	Glu	Gly	Thr 480
Leu	Asp	Ile	Asn	Gly 485	Val	Thr	Pro	Lys	Glu 490	Gly	Gly	Leu	Tyr	Thr 495	Cys
Ile	Ala	Thr	Asn 500	Leu	Val	Gly	Ala	Asp 505	Leu	Lys	Ser	Val	Met 510	Ile	Lys
Val	Asp	Gly 515	Ser	Phe	Pro	Gln	Asp 520	Asn	Asn	Gly	Ser	Leu 525	Asn	Ile	Lys
Ile	Arg 530	Asp	Ile	Gln	Ala	Asn 535	Ser	Val	Leu	Val	Ser 540	Trp	Lys	Ala	Ser
Ser 545	Lys	Ile	Leu	Lys	Ser 550	Ser	Val	Lys	Trp	Thr 555	Ala	Phe	Val	Lys	Thr 560
Glu	Asn	Ser	His	Ala 565	Ala	Gln	Ser	Ala	Arg 570	Ile	Pro	Ser	Asp	Val 575	Lys
Val	Tyr	Asn	Leu 580	Thr	His	Leu	Asn	Pro 585	Ser	Thr	Glu	Tyr	Lys 590	Ile	Cys
Ile	Asp	Ile 595	Pro	Thr	Ile	Tyr	Gln 600	Lys	Asn	Arg	Lys	Lys 605	Cys	Val	Asn
Val	Thr 610	Thr	Lys	Gly	Leu	His 615	Pro	Asp	Gln	Lys	Glu 620	Tyr	Glu	Lys	Asn

```
Asn Thr Thr Thr Leu Met Ala Cys Leu Gly Gly Leu Leu Gly Ile Ile
625
                    630
                                        635
Gly Val Ile Cys Leu Ile Ser Cys Leu Ser Pro Glu Met Asn Cys Asp
                                    650
Gly Gly His Ser Tyr Val Arg Asn Tyr Leu Gln Lys Pro Thr Phe Ala
                                665
Leu Gly Glu Leu Tyr Pro Pro Leu Ile Asn Leu Trp Glu Ala Gly Lys
                            680
Glu Lys Ser Thr Ser Leu Lys Val Lys Ala Thr Val Ile Gly Leu Pro
                        695
                                            700
Thr Asn Met Ser
705
<210> 70
<211> 1305
<212> DNA
<213> Homo sapiens
<400> 70
gcccgggact ggcgcaaggt gcccaagcaa ggaaagaaat aatgaagaga cacatgtgtt 60
agctgcagcc ttttgaaaca cgcaagaagg aaatcaatag tgtggacagg gctggaacct 120
ttaccacgct tgttggagta gatgaggaat gggctcgtga ttatgctgac attccagcat 180
gaatctggta gacctgtggt taacccgttc cctctccatg tgtctcctcc tacaaagttt 240
tgttcttatg atactgtgct ttcattctgc cagtatgtgt cccaagggct gtctttgttc 300
ttcctctggg ggtttaaatg tcacctgtag caatgcaaat ctcaaggaaa tacctagaga 360
tetteeteet gaaacagtet taetgtatet ggaeteeaat eagateacat etatteecaa 420
tgaaattttt aaggacctcc atcaactgag agttctcaac ctgtccaaaa atggcattga 480
gtttatcgat gagcatgcct tcaaaggagt agctgaaacc ttgcagactc tggacttgtc 540
cgacaatcgg attcaaagtg tgcacaaaaa tgccttcaat aacctgaagg ccagggccag 600
aattgccaac aacccctggc actgcgactg tactctacag caagttctga ggagcatggc 660
gtccaatcat gagacagece acaacgtgat ctgtaaaacg teegtgttgg atgaacatge 720
tggcagacca ttcctcaatg ctgccaacga cgctgacctt tgtaacctcc ctaaaaaaaa 780
taccgattat gccatgctgg tcaccatgtt tggctggttc actatggtga tctcatatgt 840
ggtatattat gtgaggcaaa atcaggagga tgcccggaga cacctcgaat acttgaaatc 900
cctgccaagc aggcagaaga aagcagatga acctgatgat attagcactg tggtatagtg 960
tccaaactga ctgtcattga gaaagaaaga aagtagtttg cgattgcagt agaaataagt 1020
ggtttacttc tcccatccat tgtaaacatt tgaaactttg tatttcagtt ttttttgaat 1080
tatgccactg ctgaactttt aacaaacact acaacataaa taatttgagt ttaggtgatc 1140
caccccttaa ttgtaccccc gatggtatat ttctgagtaa gctactatct gaacattagt 1200
tagatccatc tcactattta ataatgaaat ttatttttt aatttaaaag caaataaaag 1260
1305
<210> 71
<211> 259
<212> PRT
<213> Homo sapiens
<400> 71
```

Met Asn Leu Val Asp Leu Trp Leu Thr Arg Ser Leu Ser Met Cys Leu 1 5 10 15

Leu Leu Gln Ser Phe Val Leu Met Ile Leu Cys Phe His Ser Ala Ser 20 25 30

Met Cys Pro Lys Gly Cys Leu Cys Ser Ser Ser Gly Gly Leu Asn Val\$35\$ 40 45

Thr Cys Ser Asn Ala Asn Leu Lys Glu Ile Pro Arg Asp Leu Pro Pro 50 55 60

Glu Thr Val Leu Leu Tyr Leu Asp Ser Asn Gln Ile Thr Ser Ile Pro 65 70 75 80

Asn Glu Ile Phe Lys Asp Leu His Gln Leu Arg Val Leu Asn Leu Ser 85 90 95

Lys Asn Gly Ile Glu Phe Ile Asp Glu His Ala Phe Lys Gly Val Ala 100 105 110

Glu Thr Leu Gln Thr Leu Asp Leu Ser Asp Asn Arg Ile Gln Ser Val

His Lys Asn Ala Phe Asn Asn Leu Lys Ala Arg Ala Arg Ile Ala Asn 130 135 140

Asn Pro Trp His Cys Asp Cys Thr Leu Gln Gln Val Leu Arg Ser Met 145 150 155 160

Ala Ser Asn His Glu Thr Ala His Asn Val Ile Cys Lys Thr Ser Val 165 170 175

Leu Asp Glu His Ala Gly Arg Pro Phe Leu Asn Ala Ala Asn Asp Ala 180 185 190

Asp Leu Cys Asn Leu Pro Lys Lys Thr Thr Asp Tyr Ala Met Leu Val

Thr Met Phe Gly Trp Phe Thr Met Val Ile Ser Tyr Val Val Tyr Tyr 210 215 220

Val Arg Gln Asn Gln Glu Asp Ala Arg Arg His Leu Glu Tyr Leu Lys 225 230 235 240

Ser Leu Pro Ser Arg Gln Lys Lys Ala Asp Glu Pro Asp Asp Ile Ser 245 250 255

Thr Val Val

<210> 72 <211> 2290

```
<212> DNA
<213> Homo sapiens
<400> 72
accgagccga gcggaccgaa ggcgccccg agatgcaggt gagcaagagg atgctggcgg 60
ggggcgtgag gagcatgccc agccccctcc tggcctgctg gcagcccatc ctcctgctgg 120
tgctgggctc agtgctgtca ggctcggcca cgggctgccc gccccgctgc gagtgctccq 180
cccaggaccg cgctgtgctg tgccaccgca agtgctttgt ggcagtcccc gagggcatcc 240
ccaccgagac gegeetgetg gacetaggea agaaccgcat caaaacgete aaccaggacq 300
agttcgccag cttcccgcac ctggaggagc tggagctcaa cgagaacatc gtgagcgccg 360
tggagcccgg cgccttcaac aacctcttca acctccggac gctgggtctc cgcagcaacc 420
gcctgaagct catcccgcta ggcgtcttca ctggcctcag caacctgacc aagcaggaca 480
tcagcgagaa caagatcgtt atcctactgg actacatgtt tcaggacctg tacaacctca 540
agtcactgga ggttggcgac aatgacctcg tctacatctc tcaccqcqcc ttcaqcqqcc 600
tcaacagcct ggagcagctg acgctggaga aatgcaacct gacctccatc cccaccgagg 660
cgctgtccca cctgcacggc ctcatcgtcc tgaggctccg gcacctcaac atcaatqcca 720
tccgggacta ctccttcaag aggctgtacc gactcaaggt cttggagatc tcccactggc 780
cctacttgga caccatgaca cccaactgcc tctacggcct caacctgacg tccctqtcca 840
tcacacactg caatctgacc gctgtgccct acctggccgt ccgccaccta gtctatctcc 900
getteeteaa eeteteetae aaceeeatea geaceattga gggeteeatg ttgeatgage 960
tgctccggct gcaggagatc cagctggtgg gcgggcagct ggccgtggtg gagccctatg 1020
cetteegegg ceteaactae etgegegtge teaatgtete tggcaaccaq etqaccacac 1080
tggaggaatc agtcttccac tcggtgggca acctggagac actcatcctg gactccaacc 1140
cgctggcctg cgactgtcgg ctcctgtggg tgttccggcg ccgctggcgg ctcaacttca 1200
acceggeagea geceaegtge gecaegeeeg agtttgteea qqqeaaqqaq tteaaqqaet 1260
tecetgatgt getactgeec aactaettea eetgeegeeg egeeegeate egggaeegea 1320
aggcccagca ggtgtttgtg gacgagggcc acacggtgca gtttgtgtgc cqqqccqatq 1380
gcgacccgcc gcccgccatc ctctggctct caccccgaaa gcacctggtc tcagccaaga 1440
gcaatgggcg gctcacagtc ttccctgatg gcacgctgga ggtgcgctac gcccaggtac 1500
aggacaacgg cacgtacctg tgcatcgcgg ccaacgcggg cggcaacgac tccatgcccg 1560
cccacctgca tgtgcgcagc tactcgcccg actggcccca tcagcccaac aagaccttcg 1620
ctttcatctc caaccageeg ggegagggag aggecaacag caccegegec actqtqeett 1680
teccettega cateaagace etcateateg ceaceaceat gggetteate tettteetgg 1740
gcgtcgtcct cttctgcctg gtgctgctgt ttctctggag ccggggcaag ggcaacacaa 1800
agcacaacat cgagatcgag tatgtgcccc gaaagtcgga cgcaggcatc agctccgccg 1860
acgcgccccg caagttcaac atgaagatga tatgaggccg gggcgggggg cagggacccc 1920
cgggcggccg ggcaggggaa ggggcctggt cgccacctgc tcactctcca gtccttccca 1980
cetecteect accettetae acaegttete ttteteecte eegecteegt eccetgetge 2040
cccccgccag ccctcaccac ctgccctcct tctaccagga cctcagaagc ccagacctqq 2100
ggaccccacc tacacagggg cattgacaga ctggagttga aagccgacga accgacacgc 2160
ggcagagtca ataattcaat aaaaaagtta cgaactttct ctgtaacttg ggtttcaata 2220
attatggatt tttatgaaaa cttgaaataa taaaaagaga aaaaaactaa aaaaaaaaa 2280
aaaaaaaaa
                                                                  2290
<210> 73
<211> 620
<212> PRT
<213> Homo sapiens
<400> 73
Met Gln Val Ser Lys Arg Met Leu Ala Gly Gly Val Arg Ser Met Pro
                  5
```

- Ser Pro Leu Leu Ala Cys Trp Gln Pro Ile Leu Leu Leu Val Leu Gly
  20 25 30
- Ser Val Leu Ser Gly Ser Ala Thr Gly Cys Pro Pro Arg Cys Glu Cys 35 40 45
- Ser Ala Gln Asp Arg Ala Val Leu Cys His Arg Lys Cys Phe Val Ala 50 55 60
- Val Pro Glu Gly Ile Pro Thr Glu Thr Arg Leu Leu Asp Leu Gly Lys
  65 70 75 80
- Asn Arg Ile Lys Thr Leu Asn Gln Asp Glu Phe Ala Ser Phe Pro His
  85 90 95
- Leu Glu Glu Leu Glu Leu Asn Glu Asn Ile Val Ser Ala Val Glu Pro 100 105 110
- Gly Ala Phe Asn Asn Leu Phe Asn Leu Arg Thr Leu Gly Leu Arg Ser 115 120 125
- Asn Arg Leu Lys Leu Ile Pro Leu Gly Val Phe Thr Gly Leu Ser Asn 130 135 140
- Leu Thr Lys Gln Asp Ile Ser Glu Asn Lys Ile Val Ile Leu Leu Asp 145 150 155 160
- Tyr Met Phe Gln Asp Leu Tyr Asn Leu Lys Ser Leu Glu Val Gly Asp 165 170 175
- Asn Asp Leu Val Tyr Ile Ser His Arg Ala Phe Ser Gly Leu Asn Ser 180 185 190
- Leu Glu Gln Leu Thr Leu Glu Lys Cys Asn Leu Thr Ser Ile Pro Thr 195 200 205
- Glu Ala Leu Ser His Leu His Gly Leu Ile Val Leu Arg Leu Arg His 210 215 220
- Leu Asn Ile Asn Ala Ile Arg Asp Tyr Ser Phe Lys Arg Leu Tyr Arg 225 230 235 240
- Leu Lys Val Leu Glu Ile Ser His Trp Pro Tyr Leu Asp Thr Met Thr 245 250 255
- Pro Asn Cys Leu Tyr Gly Leu Asn Leu Thr Ser Leu Ser Ile Thr His 260 265 270
- Cys Asn Leu Thr Ala Val Pro Tyr Leu Ala Val Arg His Leu Val Tyr 275 280 285
- Leu Arg Phe Leu Asn Leu Ser Tyr Asn Pro Ile Ser Thr Ile Glu Gly
  290 295 300

- Ser Met Leu His Glu Leu Leu Arg Leu Gln Glu Ile Gln Leu Val Gly 305 310 315 320
- Gly Gln Leu Ala Val Val Glu Pro Tyr Ala Phe Arg Gly Leu Asn Tyr 325 330 335
- Leu Arg Val Leu Asn Val Ser Gly Asn Gln Leu Thr Thr Leu Glu Glu 340 345 350
- Ser Val Phe His Ser Val Gly Asn Leu Glu Thr Leu Ile Leu Asp Ser 355 360 365
- Asn Pro Leu Ala Cys Asp Cys Arg Leu Leu Trp Val Phe Arg Arg 370 375 380
- Trp Arg Leu Asn Phe Asn Arg Gln Gln Pro Thr Cys Ala Thr Pro Glu 385 390 395 400
- Phe Val Gln Gly Lys Glu Phe Lys Asp Phe Pro Asp Val Leu Leu Pro 405 410 415
- Asn Tyr Phe Thr Cys Arg Arg Ala Arg Ile Arg Asp Arg Lys Ala Gln
  420 425 430
- Gln Val Phe Val Asp Glu Gly His Thr Val Gln Phe Val Cys Arg Ala 435 440 445
- Asp Gly Asp Pro Pro Pro Ala Ile Leu Trp Leu Ser Pro Arg Lys His 450 455 460
- Leu Val Ser Ala Lys Ser Asn Gly Arg Leu Thr Val Phe Pro Asp Gly 465 470 475 480
- Thr Leu Glu Val Arg Tyr Ala Gln Val Gln Asp Asn Gly Thr Tyr Leu 485 490 495
- Cys Ile Ala Ala Asn Ala Gly Gly Asn Asp Ser Met Pro Ala His Leu 500 505 510
- His Val Arg Ser Tyr Ser Pro Asp Trp Pro His Gln Pro Asn Lys Thr 515 520 525
- Phe Ala Phe Ile Ser Asn Gln Pro Gly Glu Gly Glu Ala Asn Ser Thr 530 535 540
- Arg Ala Thr Val Pro Phe Pro Phe Asp Ile Lys Thr Leu Ile Ile Ala 545 550 555 560
- Thr Thr Met Gly Phe Ile Ser Phe Leu Gly Val Val Leu Phe Cys Leu 565 570 575
- Val Leu Leu Phe Leu Trp Ser Arg Gly Lys Gly Asn Thr Lys His Asn

		580					585					590			
Ile G	lu Ile 595	Glu	Tyr	Val	Pro	Arg 600	Lys	Ser	Asp	Ala	Gly 605	Ile	Ser	Ser	
	sp Ala 10	Pro	Arg	Lys	Phe 615	Asn	Met	Lys	Met	Ile 620					
<210><211><211><212><213>	22	icial	L Sec	quenc	e										
<220> <223>	Descr:					cial	Sequ	ience	e: Sy	/nthe	etic				
<400> tcacc	74 tggag (	ccttt	atto	la co	:										22
<210><211><211><212><213>	23	icial	. Seç	<sub>[uenc</sub>	:e										
<220> <223>	Descr: oligon					cial	Sequ	ience	e: S <u>y</u>	mthe	etic				
<400> atacc	75 agcta t	caaco	aggo	t go	:g										23
<210><211><212><212><213>	52	icial	. Seq	uenc	e.										
<220> <223>	Descri oligor					ial	Sequ	ience	e: Sy	nthe	etic				
<400> caaca gg	76 gtaag t	ggtt	tgat	g ct	cttc	:caaa	tct	agag	gatt	ctga	ıtgat	tg			50 52
<210><211><212><212><213>	22	.cial	Seq	uenc	e										
<220> <223>	Descri					ial	Sequ	ence	: Sy	nthe	tic				

<400> 77 ccatgtgtct cctcctacaa ag	22
<210> 78 <211> 23 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 78 gggaatagat gtgatctgat tgg	23
<210> 79 <211> 50 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 79 cacctgtagc aatgcaaatc tcaaggaaat acctagagat cttcctcctg	50
<210> 80 <211> 22 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 80 agcaaccgcc tgaagctcat cc	22
<210> 81 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 81 aaggcgcggt gaaagatgta gacg	24
<210> 82	

```
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
     oligonucleotide probe
<400> 82
gactacatgt ttcaggacct gtacaacctc aagtcactgg aggttggcga
                                                                50
<210> 83
<211> 1685
<212> DNA
<213> Homo sapiens
<400> 83
cccaegegte egeacetegg eccegggete egaagegget egggggegee ettteggtea 60
acategtagt ceaececete eccatececa geoceegggg atteaggete gecagegeee 120
agccagggag ccggccggga agcgcgatgg gggccccagc cgcctcgctc ctqctcctqc 180
tectgetgtt egeetgetge tgggegeeeg geggggeeaa eeteteeeag gaegaeagee 240
agccctggac atctgatgaa acagtggtgg ctggtggcac cgtggtgctc aagtgccaaq 300
tgaaagatca cgaggactca tccctgcaat ggtctaaccc tgctcagcag actctctact 360
ttggggagaa gagagccctt cgagataatc gaattcagct ggttacctct acgccccacg 420
ageteageat cageateage aatgtggeee tggeagaega gggegagtae acetgeteaa 480
tetteaetat geetgtgega aetgeeaagt eestegteae tgtgetagga atteeaeaga 540
agoccatoat cactggttat aaatottoat tacqqqaaaa aqacacaqoo accotaaact 600
gtcagtcttc tgggagcaag cctgcagccc ggctcacctg gagaaagggt gaccaagaac 660
tccacggaga accaacccgc atacaggaag atcccaatgg taaaaccttc actgtcagca 720
gctcggtgac attccaggtt acccgggagg atgatggggc gagcatcgtg tgctctgtga 780
accatgaatc tctaaaggga gctgacagat ccacctctca acgcattgaa gttttataca 840
caccaactgc gatgattagg ccaqaccctc cccatcctcq tqaqqqccaq aaqctqttqc 900
tacactgtga gggtcgcggc aatccagtcc cccagcaqta cctatgggag aaggaggca 960
gtgtgccacc cctgaagatg acccaggaga gtgccctgat cttccctttc ctcaacaaga 1020
gtgacagtgg cacctacggc tgcacagcca ccagcaacat gggcagctac aaggcctact 1080
acacceteaa tgttaatgae eecagteegg tgeeeteete etecageace taceaegeea 1140
tcatcggtgg gatcgtggct ttcattgtct tcctgctgct catcatgctc atcttccttg 1200
gccactactt gatccggcac aaaggaacct acctgacaca tgaggcaaaa ggctccgacg 1260
atgctccaga cgcggacacg gccatcatca atgcagaagg cgggcagtca ggaggggacg 1320
acaagaagga atatttcatc tagaggcgcc tgcccacttc ctgcgccccc caggggccct 1380
gtggggactg ctggggccgt caccaacccg gacttgtaca gagcaaccgc agggccgccc 1440
ctcccgcttg ctccccagcc cacccaccc cctgtacaga atgtctgctt tgggtgcggt 1500
ccctttccgt ggcttctctg catttgggtt attattattt ttgtaacaat cccaaatcaa 1620
atctgtctcc aggctggaga ggcaggagcc ctggggtgag aaaagcaaaa aacaaacaaa 1680
aaaca
                                                                1685
<210> 84
<211> 398
<212> PRT
<213> Homo sapiens
<400> 84
```

- Met Gly Ala Pro Ala Ala Ser Leu Leu Leu Leu Leu Leu Leu Phe Ala 1 5 10 15
- Cys Cys Trp Ala Pro Gly Gly Ala Asn Leu Ser Gln Asp Asp Ser Gln 20 25 30
- Pro Trp Thr Ser Asp Glu Thr Val Val Ala Gly Gly Thr Val Val Leu 35 40 45
- Lys Cys Gln Val Lys Asp His Glu Asp Ser Ser Leu Gln Trp Ser Asn 50 55 60
- Pro Ala Gln Gln Thr Leu Tyr Phe Gly Glu Lys Arg Ala Leu Arg Asp 65 70 75 80
- Asn Arg Ile Gln Leu Val Thr Ser Thr Pro His Glu Leu Ser Ile Ser 85 90 95
- Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu Tyr Thr Cys Ser Ile
  100 105 110
- Phe Thr Met Pro Val Arg Thr Ala Lys Ser Leu Val Thr Val Leu Gly
  115 120 125
- Ile Pro Gln Lys Pro Ile Ile Thr Gly Tyr Lys Ser Ser Leu Arg Glu 130 135 140
- Lys Asp Thr Ala Thr Leu Asn Cys Gln Ser Ser Gly Ser Lys Pro Ala 145 150 155 160
- Ala Arg Leu Thr Trp Arg Lys Gly Asp Gln Glu Leu His Gly Glu Pro 165 170 175
- Thr Arg Ile Gln Glu Asp Pro Asn Gly Lys Thr Phe Thr Val Ser Ser 180 185 190
- Ser Val Thr Phe Gln Val Thr Arg Glu Asp Asp Gly Ala Ser Ile Val 195 200 205
- Cys Ser Val Asn His Glu Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser 210 215 220
- Gln Arg Ile Glu Val Leu Tyr Thr Pro Thr Ala Met Ile Arg Pro Asp 225 230 235 240
- Pro Pro His Pro Arg Glu Gly Gln Lys Leu Leu Leu His Cys Glu Gly 245 250 255
- Arg Gly Asn Pro Val Pro Gln Gln Tyr Leu Trp Glu Lys Glu Gly Ser 260 265 270
- Val Pro Pro Leu Lys Met Thr Gln Glu Ser Ala Leu Ile Phe Pro Phe 275 280 285

```
Leu Asn Lys Ser Asp Ser Gly Thr Tyr Gly Cys Thr Ala Thr Ser Asn
Met Gly Ser Tyr Lys Ala Tyr Tyr Thr Leu Asn Val Asn Asp Pro Ser
Pro Val Pro Ser Ser Ser Ser Thr Tyr His Ala Ile Ile Gly Gly Ile
                                     330
                325
Val Ala Phe Ile Val Phe Leu Leu Leu Ile Met Leu Ile Phe Leu Gly
                                 345
His Tyr Leu Ile Arg His Lys Gly Thr Tyr Leu Thr His Glu Ala Lys
                            360
Gly Ser Asp Asp Ala Pro Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu
                        375
Gly Gly Gln Ser Gly Gly Asp Asp Lys Lys Glu Tyr Phe Ile
                    390
<210> 85
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 85
                                                                    22
gctaggaatt ccacagaagc cc
<210> 86
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 86
                                                                    22
aacctggaat gtcaccgagc tg
<210> 87
<211> 26
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
```

## oligonucleotide probe

<400> 87 cctagcacag tgacgaggga cttggc	26
<210> 88 <211> 50 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 88 aagacacage caccetaaae tgteagtett etgggageaa geetgeagee	50
<210> 89 <211> 50 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 89 gccctggcag acgagggcga gtacacctgc tcaatcttca ctatgcctgt	50
<210> 90 <211> 2755 <212> DNA <213> Homo sapiens	
qggggttagg gaggaaggaa tccacccca ccccccaaa cccttttctt ctcctttcctt ggcttcggac attggagcac taaatgaact tgaattgtgt ctgtggcgag caggatggtc gctgttactt tgtgatgaga tcggggatga attgctcgct ttaaaaatgc tgctttggat tctgttgctg gagacgtctc tttgttttgc cgctggaaac gttacagggg acgtttgcaa agagaagatc tgttcctgca atgagataga aggggaccta cacgtagact gtgaaaaaaa gggcttcaca agtctgcagc gtttcactgc cccgacttcc cagttttacc attatttct gcatggcaat tccctcactc gacttttccc taatgagttc gctaactttt ataatggggt tagtttgcac atggaaaaca atggctgca acacaaaaacaagatc ccagggggctt tctctggggt aaaaggctgc acatcaacaa caacaagatc aagtctttcc gaaagcaggc ttttcctgggg ctggaacaccc ctaccagg gccttccagg acttgaacaa gctggaggtg ctcattttaa tacgaggata accttgaacaa gctggaggtg ctcattttaa atgacaatct catcagcacc ctacctgca acgtgttcca gtatgtgcc atcaccacc tcgacctccg gggtaacagg ctgaaaacgc tgccctatga ggaggtcttg gagcaaatcc cctggaagaa accettggga accttggga agaccccac cagactggaa accttggga accttggga ggagtcttg gagcaaatcc ccctgaaaga atggctggaa aacaatccca agaatgccct gatcggcga gtggtctgcg aagccccac cagactgcag ggtaaaagac tcaatgaaac caccgaacag ggtaaagac ccacacaagaca caccgaacag ggtaaaagac ccacacaagaca caccgaacag ggtaaaagac ccacacaagacaa agaccccaac agactgcaa ggtaaaagac caccgaacag gacttgtgc cctttgaaaaacaagaacaacaagaccaacaagacaacaagacaaca	120 180 240 300 360 420 480 540 600 660 720 780 840 900 960
ccgagtggat tetagtetec eggegeeece tgeccaagaa gagacetttg eteetggace ectgecaact cettteaaga caaatgggea agaggateat gecacaceag ggtetgetee	1020

```
aaacggaggt acaaagatcc caggcaactg gcagatcaaa atcagaccca cagcagcgat 1140
agcgacgggt agctccagga acaaaccctt agctaacagt ttaccctgcc ctgggggctg 1200
cagctgcgac cacatcccag ggtcgggttt aaagatgaac tgcaacaaca ggaacgtgag 1260
cagcttggct gatttgaagc ccaagctctc taacgtgcag gagcttttcc tacgagataa 1320
caagatccac agcatccgaa aatcgcactt tgtggattac aagaacctca ttctgttgga 1380
tetgggcaac aataacateg etactgtaga gaacaacact tteaagaace ttttggacet 1440
caggtggcta tacatggata gcaattacct ggacacgctg tcccgggaga aattcgcggg 1500
gctgcaaaac ctagagtacc tgaacgtgga gtacaacgct atccagctca tcctcccggg 1560
cactttcaat gccatgccca aactgaggat cctcattctc aacaacaacc tgctgaggtc 1620
cctgcctgtg gacgtgttcg ctggggtctc gctctctaaa ctcagcctgc acaacaatta 1680
cttcatgtac ctcccggtgg caggggtgct ggaccagtta acctccatca tccagataga 1740
cctccacgga aacccctggg agtgctcctg cacaattgtg cctttcaagc agtgggcaga 1800
acqcttgggt tccgaagtgc tgatgagcga cctcaagtgt gagacgccgg tgaacttctt 1860
tagaaaggat ttcatgctcc tctccaatga cgagatctgc cctcagctgt acgctaggat 1920
ctcgcccacg ttaacttcgc acagtaaaaa cagcactggg ttggcggaga ccgggacgca 1980
ctccaactcc tacctagaca ccagcagggt gtccatctcg gtgttggtcc cgggactgct 2040
gctggtgttt gtcacctccg ccttcaccgt ggtgggcatg ctcgtgttta tcctgaggaa 2100
ccgaaagcgg tccaagagac gagatgccaa ctcctccgcg tccgagatta attccctaca 2160
gacagtetgt gactetteet actggeacaa tgggeettae aacgeagatg gggeecacag 2220
agtqtatgac tgtggctctc actcgctctc agactaagac cccaacccca ataggggagg 2280
qcagagggaa ggcgatacat ccttccccac cgcaggcacc ccgggggctg gaggggcgtg 2340
tacccaaatc cccgcgccat cagcctggat gggcataagt agataaataa ctgtgagctc 2400
gcacaaccga aagggcctga ccccttactt agctccctcc ttgaaacaaa gagcagactg 2460
tggagagetg ggagagegea gecagetege tetttgetga gageceettt tgacagaaag 2520
cccagcacga ccctgctgga agaactgaca gtgccctcgc cctcggcccc ggggcctgtg 2580
gggttggatg ccgcggttct atacatatat acatatatcc acatctatat agagagatag 2640
atatctattt ttcccctgtg gattagcccc gtgatggctc cctgttggct acgcagggat 2700
gggcagttgc acgaaggcat gaatgtattg taaataagta actttgactt ctgac
<210> 91
<211> 696
<212> PRT
<213> Homo sapiens
 <400> 91
Met Leu Leu Trp Ile Leu Leu Glu Thr Ser Leu Cys Phe Ala Ala
                                      10
  1
 Gly Asn Val Thr Gly Asp Val Cys Lys Glu Lys Ile Cys Ser Cys Asn
                                  2.5
 Glu Ile Glu Gly Asp Leu His Val Asp Cys Glu Lys Lys Gly Phe Thr
                              40
          35
 Ser Leu Gln Arg Phe Thr Ala Pro Thr Ser Gln Phe Tyr His Leu Phe
 Leu His Gly Asn Ser Leu Thr Arg Leu Phe Pro Asn Glu Phe Ala Asn
```

75

70

85

Phe Tyr Asn Ala Val Ser Leu His Met Glu Asn Asn Gly Leu His Glu

- Ile Val Pro Gly Ala Phe Leu Gly Leu Gln Leu Val Lys Arg Leu His
  100 105 110
- Ile Asn Asn Asn Lys Ile Lys Ser Phe Arg Lys Gln Thr Phe Leu Gly 115 120 125
- Leu Asp Asp Leu Glu Tyr Leu Gln Ala Asp Phe Asn Leu Leu Arg Asp 130 135 140
- Ile Asp Pro Gly Ala Phe Gln Asp Leu Asn Lys Leu Glu Val Leu Ile 145 150 155 160
- Leu Asn Asp Asn Leu Ile Ser Thr Leu Pro Ala Asn Val Phe Gln Tyr 165 170 175
- Val Pro Ile Thr His Leu Asp Leu Arg Gly Asn Arg Leu Lys Thr Leu 180 185 190
- Pro Tyr Glu Glu Val Leu Glu Gln Ile Pro Gly Ile Ala Glu Ile Leu 195 200 205
- Leu Glu Asp Asn Pro Trp Asp Cys Thr Cys Asp Leu Leu Ser Leu Lys 210 215 220
- Glu Trp Leu Glu Asn Ile Pro Lys Asn Ala Leu Ile Gly Arg Val Val 225 230 235 240
- Cys Glu Ala Pro Thr Arg Leu Gln Gly Lys Asp Leu Asn Glu Thr Thr 245 250 255
- Glu Gln Asp Leu Cys Pro Leu Lys Asn Arg Val Asp Ser Ser Leu Pro 260 265 270
- Ala Pro Pro Ala Gln Glu Glu Thr Phe Ala Pro Gly Pro Leu Pro Thr 275 280 285
- Pro Phe Lys Thr Asn Gly Gln Glu Asp His Ala Thr Pro Gly Ser Ala 290 295 300
- Pro Asn Gly Gly Thr Lys Ile Pro Gly Asn Trp Gln Ile Lys Ile Arg 305 310 315 320
- Pro Thr Ala Ala Ile Ala Thr Gly Ser Ser Arg Asn Lys Pro Leu Ala 325 330 335
- Asn Ser Leu Pro Cys Pro Gly Gly Cys Ser Cys Asp His Ile Pro Gly 340 345 350
- Ser Gly Leu Lys Met Asn Cys Asn Asn Arg Asn Val Ser Ser Leu Ala 355 360 365
- Asp Leu Lys Pro Lys Leu Ser Asn Val Gln Glu Leu Phe Leu Arg Asp 370 375 380

Asn Lys Ile His Ser Ile Arg Lys Ser His Phe Val Asp Tyr Lys Asn 385 390 395 400

Leu Ile Leu Leu Asp Leu Gly Asn Asn Ile Ala Thr Val Glu Asn 405 410 415

Asn Thr Phe Lys Asn Leu Leu Asp Leu Arg Trp Leu Tyr Met Asp Ser 420 425 430

Asn Tyr Leu Asp Thr Leu Ser Arg Glu Lys Phe Ala Gly Leu Gln Asn 435 440 445

Leu Glu Tyr Leu Asn Val Glu Tyr Asn Ala Ile Gln Leu Ile Leu Pro 450 455 460

Gly Thr Phe Asn Ala Met Pro Lys Leu Arg Ile Leu Ile Leu Asn Asn 465 470 475 480

Asn Leu Leu Arg Ser Leu Pro Val Asp Val Phe Ala Gly Val Ser Leu 485 490 495

Ser Lys Leu Ser Leu His Asn Asn Tyr Phe Met Tyr Leu Pro Val Ala 500 505 510

Gly Val Leu Asp Gln Leu Thr Ser Ile Ile Gln Ile Asp Leu His Gly 515 520 525

Asn Pro Trp Glu Cys Ser Cys Thr Ile Val Pro Phe Lys Gln Trp Ala 530 535 540

Glu Arg Leu Gly Ser Glu Val Leu Met Ser Asp Leu Lys Cys Glu Thr 545 550 555 560

Pro Val Asn Phe Phe Arg Lys Asp Phe Met Leu Leu Ser Asn Asp Glu 565 570 575

Ile Cys Pro Gln Leu Tyr Ala Arg Ile Ser Pro Thr Leu Thr Ser His 580 585 590

Ser Lys Asn Ser Thr Gly Leu Ala Glu Thr Gly Thr His Ser Asn Ser 595 600 605

Tyr Leu Asp Thr Ser Arg Val Ser Ile Ser Val Leu Val Pro Gly Leu 610 620

Leu Leu Val Phe Val Thr Ser Ala Phe Thr Val Val Gly Met Leu Val 625 630 635 640

Phe Ile Leu Arg Asn Arg Lys Arg Ser Lys Arg Arg Asp Ala Asn Ser 645 650 655

Ser Ala Ser Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr

		660					665					670			
Trp Hi	s Asn 675	Gly	Pro	Tyr	Asn	Ala 680	Asp	Gly	Ala	His	Arg 685	Val	Tyr	Asp	
Cys Gl 69		His	Ser	Leu	Ser 695	Asp									
<210> <211> <212> <213>	22 DNA	icial	L Seç	luen	ce										
<220> <223>	Descr oligo					cial	Seq	uenc	e: S	ynth	etic				
<400> gttgga		ggca	acaat	a a	С										22
<210><211><212><212><213>	24 DNA	icia	l Sed	quen	ce										
<220> <223>	Descr oligo						Seq	uenc	e: S	ynth	etic				
<400> attgt		aggc	tgag	tt t	aag										24
<210><211><211><212><213>	45	ficia	l Se	quen	ıce										
<220> <223>	Descr						. Seç	luenc	ce: S	ynth	netic	!			
<400> ggtgg	94 ctata	catg	gata	gc a	ıatta	accts	gg ac	cacgo	etgte	: ccs	<b>3</b> 33				45
<210><211><211><212><213>	2226	sapi	.ens												
gctgc	actgc accgg	gcct	ggca	gc g	gctco	egcad	ca ca	attt	cctgt	: cg	cggc	ctaa	999	actcagg aaactgt gagggcg	120

```
gaggggaagg gagggggaac cgggttgggg aagccagctg tagagggcgg tgaccgcgct 240
ccaqacacag ctctgcgtcc tcgagcggga cagatccaag ttgggagcag ctctgcgtgc 300
ggggcctcag agaatgaggc cggcgttcgc cctgtgcctc ctctggcagg cgctctggcc 360
cgggccgggc ggcggcgaac accccactgc cgaccgtgct ggctgctcgg cctcgggggc 420
ctgctacage ctgcaccacg ctaccatgaa geggcaggeg geegaggagg cetgcateet 480
gegaggtggg gegeteagea eegtgegtge gggegeegag etgegegetg tgetegeget 540
cctgcgggca ggcccagggc ccggagggg ctccaaagac ctgctgttct gggtcgcact 600
ggagcgcagg cgttcccact gcaccctgga gaacgagcct ttgcggggtt tctcctggct 660
gtcctccgac cccggcggtc tcgaaagcga cacgctgcag tgggtggagg agccccaacg 720
ctcctgcacc gcgcggagat gcgcggtact ccaggccacc ggtggggtcg agcccgcagg 780
ctggaaggag atgcgatgcc acctgcgcgc caacggctac ctgtgcaagt accagtttga 840
gqtcttgtgt cctgcgccgc gccccggggc cgcctctaac ttgagctatc gcgcgccctt 900
ccagctgcac agegeegete tggaetteag tecaectggg accgaggtga gtgegetetg 960
ceggggacag etceegatet cagttacttg categeggac gaaateggeg etcgetggga 1020
caaacteteg ggegatgtgt tgtgteeetg eeeegggagg taeeteegtg etggeaaatg 1080
cgcagagctc cctaactgcc tagacgactt gggaggcttt gcctgcgaat gtgqtacggg 1140
cttcgagctg gggaaggacg gccgctcttg tgtgaccagt ggggaaggac agccgaccct 1200
tggggggacc ggggtgccca ccaggcgccc gccggccact gcaaccagcc ccgtgccgca 1260
gagaacatgg ccaatcaggg tcgacgagaa gctgggagag acaccacttg tccctgaaca 1320
agacaattca gtaacatcta ttcctgagat tcctcgatgg ggatcacaga gcacgatgtc 1380
taccettcaa atgteeette aageegagte aaaggeeact ateaceeeat cagggagegt 1440
gatttccaag tttaattcta cgacttcctc tgccactcct caggctttcg actcctcctc 1500
tgccgtggtc ttcatatttg tgagcacagc agtagtagtg ttggtgatct tgaccatgac 1560
agtactgggg cttgtcaagc tctgctttca cgaaagcccc tcttcccagc caaggaagga 1620
gtctatgggc ccgccgggcc tggagagtga tcctgagccc gctgctttgg gctccagttc 1680
tgcacattgc acaaacaatg gggtgaaagt cggggactgt gatctgcggg acagagcaga 1740
gggtgccttg ctggcggagt cccctcttgg ctctagtgat gcatagggaa acaggggaca 1800
tgggcactcc tgtgaacagt ttttcacttt tgatgaaacg gggaaccaag aggaacttac 1860
ttgtgtaact gacaatttct gcagaaatcc cccttcctct aaattccctt tactccactg 1920
aggagetaaa teagaaetge acaeteette eetgatgata gaggaagtgg aagtgeettt 1980
aggatggtga tactggggga ccgggtagtg ctggggagag atattttctt atgtttattc 2040
ggagaatttg gagaagtgat tgaacttttc aagacattgg aaacaaatag aacacaatat 2100
aatttacatt aaaaaataat ttctaccaaa atggaaagga aatgttctat gttgttcagg 2160
ctaggagtat attggttcga aatcccaggg aaaaaaataa aaataaaaaa ttaaaggatt 2220
                                                                   2226
gttgat
<210> 96
<211> 490
 <212> PRT
 <213> Homo sapiens
<400> 96
```

Met Arg Pro Ala Phe Ala Leu Cys Leu Leu Trp Gln Ala Leu Trp Pro 1 5 10 15

Gly Pro Gly Gly Glu His Pro Thr Ala Asp Arg Ala Gly Cys Ser 20 25 30

Ala Ser Gly Ala Cys Tyr Ser Leu His His Ala Thr Met Lys Arg Gln 35 40 45

Ala Ala Glu Glu Ala Cys Ile Leu Arg Gly Gly Ala Leu Ser Thr Val 50 55 60 Arg Ala Gly Ala Glu Leu Arg Ala Val Leu Ala Leu Leu Arg Ala Gly 65 70 75 80

Pro Gly Pro Gly Gly Gly Ser Lys Asp Leu Leu Phe Trp Val Ala Leu 85 90 95

Glu Arg Arg Ser His Cys Thr Leu Glu Asn Glu Pro Leu Arg Gly
100 105 110

Phe Ser Trp Leu Ser Ser Asp Pro Gly Gly Leu Glu Ser Asp Thr Leu 115 120 125

Gln Trp Val Glu Glu Pro Gln Arg Ser Cys Thr Ala Arg Arg Cys Ala 130 135 140

Val Leu Gln Ala Thr Gly Gly Val Glu Pro Ala Gly Trp Lys Glu Met 145 150 155 160

Arg Cys His Leu Arg Ala Asn Gly Tyr Leu Cys Lys Tyr Gln Phe Glu 165 170 175

Val Leu Cys Pro Ala Pro Arg Pro Gly Ala Ala Ser Asn Leu Ser Tyr 180 185 190

Arg Ala Pro Phe Gln Leu His Ser Ala Ala Leu Asp Phe Ser Pro Pro 195 200 205

Gly Thr Glu Val Ser Ala Leu Cys Arg Gly Gln Leu Pro Ile Ser Val 210 215 220

Thr Cys Ile Ala Asp Glu Ile Gly Ala Arg Trp Asp Lys Leu Ser Gly 225 230 235 240

Asp Val Leu Cys Pro Cys Pro Gly Arg Tyr Leu Arg Ala Gly Lys Cys 245 250 255

Ala Glu Leu Pro Asn Cys Leu Asp Asp Leu Gly Gly Phe Ala Cys Glu 260 265 270

Cys Ala Thr Gly Phe Glu Leu Gly Lys Asp Gly Arg Ser Cys Val Thr 275 280 285

Ser Gly Glu Gly Gln Pro Thr Leu Gly Gly Thr Gly Val Pro Thr Arg 290 295 300

Arg Pro Pro Ala Thr Ala Thr Ser Pro Val Pro Gln Arg Thr Trp Pro 305 310 315 320

Ile Arg Val Asp Glu Lys Leu Gly Glu Thr Pro Leu Val Pro Glu Gln 325 330 335

Asp Asn Ser Val Thr Ser Ile Pro Glu Ile Pro Arg Trp Gly Ser Gln

	340			345					350			
Ser Thr Met	Ser Thr	Leu Gln	Met 360	Ser	Leu	Gln	Ala	Glu 365	Ser	Lys	Ala	
Thr Ile Thr 370	Pro Ser	Gly Ser 375	Val	Ile	Ser	Lys	Phe 380	Asn	Ser	Thr	Thr	
Ser Ser Ala 385	Thr Pro	Gln Ala 390	Phe	Asp	Ser	Ser 395	Ser	Ala	Val	Val	Phe 400	
Ile Phe Val	Ser Thr 405	Ala Val	Val	Val	Leu 410	Val	Ile	Leu	Thr	Met 415	Thr	
Val Leu Gly	Leu Val 420	Lys Leu	Cys	Phe 425	His	Glu	Ser	Pro	Ser 430	Ser	Gln	
Pro Arg Lys 435		Met Gly	Pro 440	Pro	Gly	Leu	Glu	Ser 445	Asp	Pro	Glu	
Pro Ala Ala 450	Leu Gly	Ser Ser 455	Ser	Ala	His	Cys	Thr 460	Asn	Asn	Gly	Val	
Lys Val Gly 465	Asp Cys	Asp Leu 470	Arg	Asp	Arg	Ala 475	Glu	Gly	Ala	Leu	Leu 480	
Ala Glu Ser	Pro Leu 485		Ser	Asp	Ala 490							
<210> 97 <211> 24 <212> DNA <213> Artif	icial Se	quence										
<220> <223> Descr		of Artifi .de probe		Seq	uenc	e: S	ynth	etic	:			
<400> 97 tggaaggaga	tgcgatgo	ca cctg										24
<210> 98 <211> 20 <212> DNA <213> Artif	Eicial Se	equence										
<220> <223> Description		of Artifi ide probe		. Sec	quenc	ce: S	Syntl	netio	C			
<400> 98 tgaccagtgg	ggaagga	cag										20

<210>	۵۵	
<211>		
<212>		
<213> .	Artificial Sequence	
<220>	Description of Ambificial Cognongo, Comthetic	
	Description of Artificial Sequence: Synthetic oligonucleotide probe	
	origonacieociae prose	
<400>	99	
acagag	caga gggtgccttg	20
<210>		
<211>		
<212>		
<213>	Artificial Sequence	
<220>		
<223>	Description of Artificial Sequence: Synthetic	
	oligonucleotide probe	
<400>		24
tcaggg	acaa gtggtgtctc tccc	
<210>	101	
<211>	24	
<212>		
<213>	Artificial Sequence	
<220>		
	Description of Artificial Sequence: Synthetic	
1220	oligonucleotide probe	
<400>		24
tcaggg	gaagg agtgtgcagt tctg	24
<210>	102	
<211>		
<212>		
<213>	Artificial Sequence	
<220>	Demonstration of Authorizing Companyon Completing	
<223>	Description of Artificial Sequence: Synthetic oligonucleotide probe	
	origonacieotiae probe	
<400>	102	
acagct	cccg atctcagtta cttgcatcgc ggacgaaatc ggcgctcgct	50
<210>		
<211>		
<212>	UNA Homo saniens	

```
<400> 103
cggacgcgtg ggattcagca gtggcctgtg gctgccagag cagctcctca ggggaaacta 60
agegtegagt cagaeggeac cataategee tttaaaagtg ceteegeeet geeggeegeg 120
tatcccccgg ctacctgggc cgccccgcgg cggtgcgcgc gtgagaggga gcgcgcgggc 180
agccgagcgc cggtgtgagc cagcgctgct gccagtgtga gcggcggtgt gagcgcggtg 240
ggtgcggagg ggcgtgtgtg ccggcgcgcg cgccgtgggg tgcaaacccc gagcgtctac 300
gctgccatga ggggcgcgaa cgcctgggcg ccactctgcc tgctgctggc tgccgccacc 360
cagctctcgc ggcagcagtc cccagagaga cctgttttca catgtggtgg cattcttact 420
ggagagtetg gatttattgg cagtgaaggt tttcctggag tgtaccetee aaatagcaaa 480
tgtacttgga aaatcacagt tcccgaagga aaagtagtcg ttctcaattt ccgattcata 540
gacctcgaga gtgacaacct gtgccgctat gactttgtgg atgtgtacaa tggccatgcc 600
aatggccagc gcattggccg cttctgtggc actttccggc ctggagccct tgtgtccagt 660
ggcaacaaga tgatggtgca gatgatttct gatgccaaca cagctggcaa tggcttcatg 720
gccatgttct ccgctgctga accaaacgaa agaggggatc agtattgtgg aggactcctt 780
gacagacett eeggetettt taaaaeeeee aactggeeag aeegggatta eeetgeagga 840
gtcacttgtg tgtggcacat tgtagcccca aagaatcagc ttatagaatt aaagtttgag 900
aagtttgatg tggagcgaga taactactgc cgatatgatt atgtggctgt gtttaatggc 960
ggggaagtca acgatgctag aagaattgga aagtattgtg gtgatagtcc acctgcgcca 1020
attgtgtctg agagaaatga acttcttatt cagtttttat cagacttaag tttaactgca 1080
gatgggttta ttggtcacta catattcagg ccaaaaaaac tgcctacaac tacagaacag 1140
cctgtcacca ccacattccc tgtaaccacg ggtttaaaac ccaccgtggc cttgtgtcaa 1200
caaaagtgta gacggacggg gactctggag ggcaattatt gttcaagtga ctttgtatta 1260
gccggcactg ttatcacaac catcactcgc gatgggagtt tgcacgccac agtctcgatc 1320
atcaacatct acaaagaggg aaatttggcg attcagcagg cgggcaagaa catgagtgcc 1380
aggctgactg tcgtctgcaa gcagtgccct ctcctcagaa gaggtctaaa ttacattatt 1440
atgggccaag taggtgaaga tgggcgaggc aaaatcatgc caaacagctt tatcatgatg 1500
ttcaagacca agaatcagaa gctcctggat gccttaaaaa ataagcaatg ttaacagtga 1560
actgtgtcca tttaagctgt attctgccat tgcctttgaa agatctatgt tctctcagta 1620
gaaaaaaaa tacttataaa attacatatt ctgaaagagg attccgaaag atgggactgg 1680
ttgactcttc acatgatgga ggtatgaggc ctccgagata gctgagggaa gttctttgcc 1740
tgctgtcaga ggagcagcta tctgattgga aacctgccga cttagtgcgg tgataggaag 1800
ctaaaagtgt caagcgttga cagcttggaa gcgtttattt atacatctct gtaaaaggat 1860
attttagaat tgagttgtgt gaagatgtca aaaaaagatt ttagaagtgc aatatttata 1920
gtgttatttg tttcaccttc aagcctttgc cctgaggtgt tacaatcttg tcttgcgttt 1980
                                                                   2026
tctaaatcaa tgcttaataa aatatttta aaggaaaaaa aaaaaa
<210> 104
<211> 415
<212> PRT
<213> Homo sapiens
<400> 104
Met Arg Gly Ala Asn Ala Trp Ala Pro Leu Cys Leu Leu Leu Ala Ala
Ala Thr Gln Leu Ser Arg Gln Gln Ser Pro Glu Arg Pro Val Phe Thr
                                                      30
             20
Cys Gly Gly Ile Leu Thr Gly Glu Ser Gly Phe Ile Gly Ser Glu Gly
                              40
Phe Pro Gly Val Tyr Pro Pro Asn Ser Lys Cys Thr Trp Lys Ile Thr
                          55
```

- Val Pro Glu Gly Lys Val Val Val Leu Asn Phe Arg Phe Ile Asp Leu 65 70 75 80
- Glu Ser Asp Asn Leu Cys Arg Tyr Asp Phe Val Asp Val Tyr Asn Gly
  85 90 95
- His Ala Asn Gly Gln Arg Ile Gly Arg Phe Cys Gly Thr Phe Arg Pro
- Gly Ala Leu Val Ser Ser Gly Asn Lys Met Met Val Gln Met Ile Ser 115 120 125
- Asp Ala Asn Thr Ala Gly Asn Gly Phe Met Ala Met Phe Ser Ala Ala 130 135 140
- Glu Pro Asn Glu Arg Gly Asp Gln Tyr Cys Gly Gly Leu Leu Asp Arg 145 150 155 160
- Pro Ser Gly Ser Phe Lys Thr Pro Asn Trp Pro Asp Arg Asp Tyr Pro 165 170 175
- Ala Gly Val Thr Cys Val Trp His Ile Val Ala Pro Lys Asn Gln Leu 180 185 190
- Ile Glu Leu Lys Phe Glu Lys Phe Asp Val Glu Arg Asp Asn Tyr Cys 195 200 205
- Arg Tyr Asp Tyr Val Ala Val Phe Asn Gly Gly Glu Val Asn Asp Ala 210 215 220
- Arg Arg Ile Gly Lys Tyr Cys Gly Asp Ser Pro Pro Ala Pro Ile Val 225 230 235 240
- Ser Glu Arg Asn Glu Leu Leu Ile Gln Phe Leu Ser Asp Leu Ser Leu 245 250 255
- Thr Ala Asp Gly Phe Ile Gly His Tyr Ile Phe Arg Pro Lys Lys Leu 260 265 270
- Pro Thr Thr Glu Gln Pro Val Thr Thr Thr Phe Pro Val Thr Thr 275 280 285
- Gly Leu Lys Pro Thr Val Ala Leu Cys Gln Gln Lys Cys Arg Arg Thr 290 295 300
- Gly Thr Leu Glu Gly Asn Tyr Cys Ser Ser Asp Phe Val Leu Ala Gly 305 310 315 320
- Thr Val Ile Thr Thr Ile Thr Arg Asp Gly Ser Leu His Ala Thr Val 325 330 335
- Ser Ile Ile Asn Ile Tyr Lys Glu Gly Asn Leu Ala Ile Gln Gln Ala

		340					345					350			
Gly Lys	Asn 355	Met	Ser	Ala	Arg	Leu 360	Thr	Val	Val	Cys	Lys 365	Gln	Cys	Pro	
Leu Leu 370	Arg	Arg	Gly	Leu	Asn 375	Tyr	Ile	Ile	Met	Gly 380	Gln	Val	Gly	Glu	
Asp Gly 385	Arg	Gly	Lys	Ile 390	Met	Pro	Asn	Ser	Phe 395	Ile	Met	Met	Phe	Lys 400	
Thr Lys	Asn	Gln	Lys 405	Leu	Leu	Asp	Ala	Leu 410	Lys	Asn	Lys	Gln	Cys 415		
<210> 1 <211> 2 <212> D <213> A	2 NA	icia	l Se	quen	ce										
<220> <223> D	escr: ligo						Seq	uenc	e: S	ynth	etic				
<400> 1 ccgattc		gacc	tcga	ga g	t										22
<210> 1 <211> 2 <212> E <213> A	2 NA	icia	l Se	quen	ce										
<220> <223> D	escr oligo						Seq	uenc	e: S	ynth	etic				
<400> 1 gtcaagg		cctc	caca	ıat a	.c										22
<210> 1 <211> 4 <212> I <213> I	15 ONA	icia	al Se	equen	ıce										
<220> <223> I	Descr oligo						Sec	quenc	e: S	Synth	netio	2			
<400> 1 gtgtaca		gcca	atgco	caa t	ggad	cagco	gc at	tggo	ccgct	tct	gt				45
<210> 1 <211> 1 <212> I	1838														

## <213> Homo sapiens

```
<400> 108
cggacgcgtg ggcggacgcg tgggcggccc acggcgcccg cgggctgggg cggtcgcttc 60
ttccttctcc gtggcctacg agggtcccca gcctgggtaa agatggcccc atggcccccg 120
aagggeetag teecagetgt getetgggge eteageetet teeteaacet eecaggaeet 180
atotogotoc ageoctotoc acetecocaq tottetecco egecteagec coatcegtgt 240
catacctgcc ggggactggt tgacagcttt aacaagggcc tggagagaac catccgggac 300
aactttggag gtggaaacac tgcctgggag gaagagaatt tgtccaaata caaagacagt 360
gagacccgcc tggtagaggt gctggagggt gtgtgcagca agtcagactt cgagtgccac 420
cgcctgctgg agctgagtga ggagctggtg gagagctggt ggtttcacaa gcagcaggag 480
gccccggacc tcttccagtg gctgtgctca gattccctga agctctgctg ccccgcaggc 540
accttcqqqc cctcctgcct tccctgtcct gggggaacag agaggccctg cggtggctac 600
gggcagtgtg aaggagaagg gacacgaggg ggcagcgggc actgtgactg ccaagccggc 660
tacgggggtg aggcctgtgg ccagtgtggc cttggctact ttgaggcaga acgcaacgcc 720
agccatctgg tatgttcggc ttgttttggc ccctgtgccc gatgctcagg acctgaggaa 780
tcaaactgtt tgcaatgcaa gaagggctgg gccctgcatc acctcaagtg tgtagacatt 840
gatgagtgtg gcacagaggg agccaactgt ggagctgacc aattctgcgt gaacactgag 900
ggctcctatg agtgccgaga ctgtgccaag gcctgcctag gctgcatggg ggcagggcca 960
ggtcgctgta agaagtgtag ccctggctat cagcaggtgg gctccaagtg tctcgatgtg 1020
gatgagtgtg agacagaggt gtgtccggga gagaacaagc agtgtgaaaa caccgagggc 1080
ggttatcgct gcatctgtgc cgagggctac aagcagatgg aaggcatctg tgtgaaggag 1140
cagatcccag agtcagcagg cttcttctca gagatgacag aagacgagtt ggtggtgctg 1200
cagcagatgt tctttggcat catcatctgt gcactggcca cgctggctgc taagggcgac 1260
ttggtgttca ccgccatctt cattggggct gtggcggcca tgactggcta ctggttgtca 1320
gagegeagtg accepted georgegette ateaagggea gataategeg gecaceacet 1380
gtaggacete eteceaecea egetgeeece agagettggg etgeceteet getggacaet 1440
caggacaget tggtttattt ttgagagtgg ggtaageace cetacetgee ttacagagea 1500
gcccaggtac ccaggcccgg gcagacaagg cccctggggt aaaaagtagc cctgaaggtg 1560
gataccatga gctcttcacc tggcggggac tggcaggctt cacaatgtgt gaatttcaaa 1620
agtttttcct taatggtggc tgctagagct ttggcccctg cttaggatta ggtggtcctc 1680
acaggggtgg ggccatcaca gctccctcct gccagctgca tgctgccagt tcctgttctg 1740
tgttcaccac atccccacac cccattgcca cttatttatt catctcagga aataaagaaa 1800
                                                                  1838
qqtcttqqaa agttaaaaaa aaaaaaaaa aaaaaaaa
```

```
<210> 109
```

<400> 109

```
Met Ala Pro Trp Pro Pro Lys Gly Leu Val Pro Ala Val Leu Trp Gly
1 10 15
```

Leu Ser Leu Phe Leu Asn Leu Pro Gly Pro Ile Trp Leu Gln Pro Ser 20 25 30

Pro Pro Pro Gln Ser Ser Pro Pro Pro Gln Pro His Pro Cys His Thr

Cys Arg Gly Leu Val Asp Ser Phe Asn Lys Gly Leu Glu Arg Thr Ile
50 55 60

<sup>&</sup>lt;211> 420

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

- Arg Asp Asn Phe Gly Gly Gly Asn Thr Ala Trp Glu Glu Glu Asn Leu 65 70 75 80
- Ser Lys Tyr Lys Asp Ser Glu Thr Arg Leu Val Glu Val Leu Glu Gly 85 90 95
- Val Cys Ser Lys Ser Asp Phe Glu Cys His Arg Leu Leu Glu Leu Ser 100 105 110
- Glu Glu Leu Val Glu Ser Trp Trp Phe His Lys Gln Gln Glu Ala Pro 115 120 125
- Asp Leu Phe Gln Trp Leu Cys Ser Asp Ser Leu Lys Leu Cys Cys Pro 130 135 140
- Ala Gly Thr Phe Gly Pro Ser Cys Leu Pro Cys Pro Gly Gly Thr Glu
  145 150 155 160
- Arg Pro Cys Gly Gly Tyr Gly Gln Cys Glu Gly Glu Gly Thr Arg Gly
  165 170 175
- Gly Ser Gly His Cys Asp Cys Gln Ala Gly Tyr Gly Glu Ala Cys 180 185 190
- Gly Gln Cys Gly Leu Gly Tyr Phe Glu Ala Glu Arg Asn Ala Ser His 195 200 205
- Leu Val Cys Ser Ala Cys Phe Gly Pro Cys Ala Arg Cys Ser Gly Pro 210 215 220
- Glu Glu Ser Asn Cys Leu Gln Cys Lys Lys Gly Trp Ala Leu His His 225 230 235 240
- Leu Lys Cys Val Asp Ile Asp Glu Cys Gly Thr Glu Gly Ala Asn Cys 245 250 255
- Gly Ala Asp Gln Phe Cys Val Asn Thr Glu Gly Ser Tyr Glu Cys Arg
- Asp Cys Ala Lys Ala Cys Leu Gly Cys Met Gly Ala Gly Pro Gly Arg 275 280 285
- Cys Lys Lys Cys Ser Pro Gly Tyr Gln Gln Val Gly Ser Lys Cys Leu 290 295 300
- Asp Val Asp Glu Cys Glu Thr Glu Val Cys Pro Gly Glu Asn Lys Gln 305 310 315 320
- Cys Glu Asn Thr Glu Gly Gly Tyr Arg Cys Ile Cys Ala Glu Gly Tyr
- Lys Gln Met Glu Gly Ile Cys Val Lys Glu Gln Ile Pro Glu Ser Ala 340 345 350

Gly	Phe	Phe 355	Ser	Glu	Met	Thr	Glu 360	Asp	Glu	Leu	Val	Val 365	Leu	Gln	Gln	
Met	Phe 370	Phe	Gly	Ile	Ile	Ile 375	Cys	Ala	Leu	Ala	Thr 380	Leu	Ala	Ala	Lys	
Gly 385	Asp	Leu	Val	Phe	Thr 390	Ala	Ile	Phe	Ile	Gly 395	Ala	Val	Ala	Ala	Met 400	
Thr	Gly	Tyr	Trp	Leu 405	Ser	Glu	Arg	Ser	Asp 410	Arg	Val	Leu	Glu	Gly 415	Phe	
Ile	Lys	Gly	Arg 420													
<21:	0 > 1: 1 > 5: 2 > D: 3 > A:	O NA	icia	l Se	quen	ce										
<22 <22	3 > D					tifi robe		Seq	uenc	e: S	ynth	etic				
	0> 1 ggct		agca	ggtg	gg c	tcca	agtg	t ct	cgat	gtgg	atg	agtg	tga			50
<21 <21	0> 1 1> 2 2> D 3> A	2 NA	icia	l Se	quen	.ce										
<22 <22	3 > D					tifi robe		Seq	uenc	e: S	ynth	etic				
	0> 1 ctgc		aaca	.ctga	.gg g	ſĊ										22
<21 <21	0> 1 1> 2 2> D 3> A	2 NA	icia	ıl Se	quer	ıce										
<22 <22	3 > D					tifi robe		. Seq	quenc	e: S	ynth	etic	:			
	0> 1 tgct		agco	ecteg	igc a	ıc										22
<21	0 > 1	13														

```
<211> 1616
<212> DNA
<213> Homo sapiens
<220>
<221> modified base
<222> (1461)
<223> a, t, c or g
<400> 113
tgagaccete etgeageett eteaagggae ageeceaete tgeetettge teeteeaggg 60
cagcaccatg cagccctgt ggctctgctg ggcactctgg gtgttgcccc tggccagccc 120
cggggccgcc ctgaccgggg agcagctcct gggcagcctg ctgcggcagc tgcagctcaa 180
agaggtgccc accctggaca gggccgacat ggaggagctg gtcatcccca cccacgtgag 240
ggcccagtac gtggccctgc tgcagcgcag ccacggggac cgctcccgcg gaaagaggtt 300
cagccagagc ttccgagagg tggccggcag gttcctggcg ttggaggcca gcacacacct 360
gctggtgttc ggcatggagc agcggctgcc gcccaacagc gagctggtgc aggccgtgct 420
geggetette caggageegg teeccaagge egegetgeac aggeaeggge ggetgteece 480
gegeagegee egggeeeggg tgaeegtega gtggetgege gteegegaeg aeggeteeaa 540
ccgcacctcc ctcatcgact ccaggctggt gtccgtccac gagagcggct ggaaggcctt 600
cgacgtgacc gaggccgtga acttctggca gcagctgagc cggccccggc agccgctgct 660
gctacaggtg tcggtgcaga gggagcatct gggcccgctg gcgtccggcg cccacaagct 720
ggtccgcttt gcctcgcagg gggcgccagc cgggcttggg gagccccagc tggagctgca 780
caccetggae ettggggaet atggagetea gggegaetgt gaecetgaag caccaatgae 840
cgagggcacc cgctgctgcc gccaggagat gtacattgac ctgcagggga tgaagtgggc 900
cgagaactgg gtgctggagc ccccgggctt cctggcttat gagtgtgtgg gcacctgccg 960
geageceeg gaggeeetgg cetteaagtg geegtttetg gggeetegae agtgeatege 1020
ctcggagact gactcgctgc ccatgatcgt cagcatcaag gagggaggca ggaccaggcc 1080
ccaggtggtc agcctgccca acatgagggt gcagaagtgc agctgtgcct cggatggtgc 1140
gtgtgtgttt ctgaagtgtt cgagggtacc aggagagctg gcgatgactg aactgctgat 1260
ggacaaatgc tctgtgctct ctagtgagcc ctgaatttgc ttcctctgac aagttacctc 1320
acctaatttt tgcttctcag gaatgagaat ctttggccac tggagagccc ttgctcagtt 1380
ttctctattc ttattattca ctgcactata ttctaagcac ttacatgtgg agatactgta 1440
acctgagggc agaaagccca ntgtgtcatt gtttacttgt cctgtcactg gatctgggct 1500
aaagtcctcc accaccactc tggacctaag acctggggtt aagtgtgggt tgtgcatccc 1560
caatccagat aataaagact ttgtaaaaca tgaataaaac acattttatt ctaaaa
<210> 114
<211> 366
<212> PRT
<213> Homo sapiens
<400> 114
Met Gln Pro Leu Trp Leu Cys Trp Ala Leu Trp Val Leu Pro Leu Ala
Ser Pro Gly Ala Ala Leu Thr Gly Glu Gln Leu Leu Gly Ser Leu Leu
                                                    30
                                 25
Arg Gln Leu Gln Leu Lys Glu Val Pro Thr Leu Asp Arg Ala Asp Met
                             40
```

- Glu Glu Leu Val Ile Pro Thr His Val Arg Ala Gln Tyr Val Ala Leu
  50 55 60
- Leu Gln Arg Ser His Gly Asp Arg Ser Arg Gly Lys Arg Phe Ser Gln 65 70 75 80
- Ser Phe Arg Glu Val Ala Gly Arg Phe Leu Ala Leu Glu Ala Ser Thr 85 90 95
- His Leu Leu Val Phe Gly Met Glu Gln Arg Leu Pro Pro Asn Ser Glu 100 105 110
- Leu Val Gln Ala Val Leu Arg Leu Phe Gln Glu Pro Val Pro Lys Ala 115 120 125
- Ala Leu His Arg His Gly Arg Leu Ser Pro Arg Ser Ala Arg Ala Arg 130 135 140
- Val Thr Val Glu Trp Leu Arg Val Arg Asp Asp Gly Ser Asn Arg Thr 145 150 155 160
- Ser Leu Ile Asp Ser Arg Leu Val Ser Val His Glu Ser Gly Trp Lys 165 170 175
- Ala Phe Asp Val Thr Glu Ala Val Asn Phe Trp Gln Gln Leu Ser Arg 180 185 190
- Pro Arg Gln Pro Leu Leu Gln Val Ser Val Gln Arg Glu His Leu 195 200 205
- Gly Pro Leu Ala Ser Gly Ala His Lys Leu Val Arg Phe Ala Ser Gln 210 215 220
- Gly Ala Pro Ala Gly Leu Gly Glu Pro Gln Leu Glu Leu His Thr Leu 225 230 235 240
- Asp Leu Gly Asp Tyr Gly Ala Gln Gly Asp Cys Asp Pro Glu Ala Pro 245 250 255
- Met Thr Glu Gly Thr Arg Cys Cys Arg Gln Glu Met Tyr Ile Asp Leu 260 265 270
- Gln Gly Met Lys Trp Ala Glu Asn Trp Val Leu Glu Pro Pro Gly Phe 275 280 285
- Leu Ala Tyr Glu Cys Val Gly Thr Cys Arg Gln Pro Pro Glu Ala Leu 290 295 300
- Ala Phe Lys Trp Pro Phe Leu Gly Pro Arg Gln Cys Ile Ala Ser Glu 305 310 315 320
- Thr Asp Ser Leu Pro Met Ile Val Ser Ile Lys Glu Gly Gly Arg Thr 325 330 335

Arg Pro Gln Val Val Ser Leu Pro Asn Met Arg Val Gln Lys Cys Ser 340 345 350	
Cys Ala Ser Asp Gly Ala Leu Val Pro Arg Arg Leu Gln Pro 355 360 365	
<210> 115 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 115 aggactgcca taacttgcct g	21
<210> 116 <211> 22 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 116 ataggagttg aagcagcgct gc	22
<210> 117 <211> 45 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 117 tgtgtggaca tagacgagtg ccgctaccgc tactgccagc accgc	45
<210> 118 <211> 1857 <212> DNA <213> Homo sapiens	
<400> 118 gtctgttccc aggagtcctt cggcggctgt tgtgtcagtg gcctgatcgc gatggggaca aaggcgcaag tcgagaggaa actgttgtgc ctcttcatat tggcgatcct gttgtgctcc ctggcattgg gcagtgttac agtgcactct tctgaacctg aagtcagaat tcctgagaat	120

```
aatcctgtga agttgtcctg tgcctactcg ggcttttctt ctccccgtgt ggagtggaag 240
tttgaccaag gagacaccac cagactcgtt tgctataata acaagatcac agcttcctat 300
gaggaccggg tgaccttctt gccaactggt atcaccttca agtccgtgac acgggaagac 360
actgggacat acacttgtat ggtctctgag gaaggcggca acagctatgg ggaggtcaag 420
gtcaagctca tcgtgcttgt gcctccatcc aagcctacag ttaacatccc ctcctctgcc 480
accattggga accgggcagt gctgacatgc tcagaacaag atggttcccc accttctgaa 540
tacacctggt tcaaagatgg gatagtgatg cctacgaatc ccaaaagcac ccgtgccttc 600
agcaactett cetatgteet gaateecaca acaggagage tggtetttga teecetgtea 660
gcctctgata ctggagaata cagctgtgag gcacggaatg ggtatgggac acccatgact 720
tcaaatgctg tgcgcatgga agctgtggag cggaatgtgg gggtcatcgt ggcagccgtc 780
cttgtaaccc tgattctcct gggaatcttg gtttttggca tctggtttgc ctatagccga 840
ggccactttg acagaacaaa gaaagggact tcgagtaaga aggtgattta cagccagcct 900
agtgcccgaa gtgaaggaga attcaaacag acctcgtcat tcctggtgtg agcctggtcg 960
geteacegee tateatetge atttgeetta eteaggtget aceggaetet ggeeeetgat 1020
gtctgtagtt tcacaggatg ccttatttgt cttctacacc ccacagggcc ccctacttct 1080
teggatgtgt ttttaataat gteagetatg tgeeceatee teetteatge eeteecteec 1140
tttcctacca ctgctgagtg gcctggaact tgtttaaagt gtttattccc catttctttg 1200
agggatcagg aaggaatcct gggtatgcca ttgacttccc ttctaagtag acagcaaaaa 1260
tggcgggggt cgcaggaatc tgcactcaac tgcccacctg gctggcaggg atctttgaat 1320
aggtatettg agettggtte tgggetettt eettgtgtae tgaegaecag ggeeagetgt 1380
tctaqagcgg gaattagagg ctagagcggc tgaaatggtt gtttggtgat gacactgggg 1440
tecttecate tetggggece actetettet gtetteceat gggaagtgee actgggatee 1500
ctctgccctg tcctcctgaa tacaagctga ctgacattga ctgtgtctgt ggaaaatggg 1560
agctcttgtt gtggagagca tagtaaattt tcagagaact tgaagccaaa aggatttaaa 1620
accgctgctc taaagaaaag aaaactggag gctgggcgca gtggctcacg cctgtaatcc 1680
cagaggetga ggeaggegga teacetgagg tegggagtte gggateagee tgaccaacat 1740
ggagaaaccc tactggaaat acaaagttag ccaggcatgg tggtgcatgc ctgtagtccc 1800
agetgeteag gageetggea acaagageaa aacteeaget caaaaaaaaa aaaaaaa
<210> 119
<211> 299
<212> PRT
<213> Homo sapiens
<400> 119
Met Gly Thr Lys Ala Gln Val Glu Arg Lys Leu Leu Cys Leu Phe Ile
  1
Leu Ala Ile Leu Leu Cys Ser Leu Ala Leu Gly Ser Val Thr Val His
                                 25
Ser Ser Glu Pro Glu Val Arg Ile Pro Glu Asn Asn Pro Val Lys Leu
         35
Ser Cys Ala Tyr Ser Gly Phe Ser Ser Pro Arg Val Glu Trp Lys Phe
Asp Gln Gly Asp Thr Thr Arg Leu Val Cys Tyr Asn Asn Lys Ile Thr
```

75

90

70

85

Ala Ser Tyr Glu Asp Arg Val Thr Phe Leu Pro Thr Gly Ile Thr Phe

Lys Ser Val Thr Arg Glu Asp Thr Gly Thr Tyr Thr Cys Met Val Ser

Glu Glu Gly Gly Asn Ser Tyr Gly Glu Val Lys Val Lys Leu Ile Val 115 120 125

Leu Val Pro Pro Ser Lys Pro Thr Val Asn Ile Pro Ser Ser Ala Thr 130 135 140

Ile Gly Asn Arg Ala Val Leu Thr Cys Ser Glu Gln Asp Gly Ser Pro 145 150 155 160

Pro Ser Glu Tyr Thr Trp Phe Lys Asp Gly Ile Val Met Pro Thr Asn 165 170 175

Pro Lys Ser Thr Arg Ala Phe Ser Asn Ser Ser Tyr Val Leu Asn Pro 180 185 190

Thr Thr Gly Glu Leu Val Phe Asp Pro Leu Ser Ala Ser Asp Thr Gly 195 200 205

Glu Tyr Ser Cys Glu Ala Arg Asn Gly Tyr Gly Thr Pro Met Thr Ser 210 215 220

Asn Ala Val Arg Met Glu Ala Val Glu Arg Asn Val Gly Val Ile Val 225 230 235 240

Ala Ala Val Leu Val Thr Leu Ile Leu Leu Gly Ile Leu Val Phe Gly 245 250 255

Ile Trp Phe Ala Tyr Ser Arg Gly His Phe Asp Arg Thr Lys Lys Gly 260 265 270

Thr Ser Ser Lys Lys Val Ile Tyr Ser Gln Pro Ser Ala Arg Ser Glu 275 280 285

Gly Glu Phe Lys Gln Thr Ser Ser Phe Leu Val 290 295

<210> 120

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide probe

<400> 120

tcgcggagct gtgttctgtt tccc

<210> 121

<211> 50

<212> <213>	DNA Artificial Sequence	
<220> <223>	Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> tgato	121 gegat ggggacaaag gegcaagete gagaggaaae tgttgtgeet	50
<210><211><211><212><213>	20	
<220> <223>	Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> acaco	tggtt caaagatggg	20
<210><211><211><212><213>	· 24	
<220> <223>	Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> tagga	123 agagt tgctgaaggc acgg	24
<210 > <211 > <212 > <212 > <213 > <	· 20	
<220> <223>	Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> ttgc	> 124 ettact caggtgctac	20
<220×	Description of Artificial Sequence: Synthetic	

## oligonucleotide probe

```
<400> 125
                                                                  20
actcaqcaqt ggtaggaaag
<210> 126
<211> 1210
<212> DNA
<213> Homo sapiens
<400> 126
cagcgcgtgg ccggcgccgc tgtggggaca gcatgagcgg cggttggatg gcgcaggttg 60
gagcgtggcg aacaggggct ctgggcctgg cgctgctgct gctgctcggc ctcggactag 120
gcctggaggc cgccgcgagc ccgctttcca ccccgacctc tgcccaggcc gcaggcccca 180
getcaggetc gtgeccaccc accaagttec agtgecgcac cagtggetta tgegtgeccc 240
tcacctggcg ctgcgacagg gacttggact gcagcgatgg cagcgatgag gaggagtgca 300
ggattgagcc atgtacccag aaagggcaat gcccaccgcc ccctggcctc ccctgcccct 360
gcaccggcgt cagtgactgc tctgggggaa ctgacaagaa actgcgcaac tgcagccgcc 420
tggcctgcct agcaggcgag ctccgttgca cgctgagcga tgactgcatt ccactcacgt 480
ggcgctgcga cggccaccca gactgtcccg actccagcga cgagctcggc tgtggaacca 540
atgagatect eceggaaggg gatgecaeaa ecatggggee eeetgtgaee etggagagtg 600
tcacctctct caggaatgcc acaaccatgg ggccccctgt gaccctggag agtgtcccct 660
ctgtcgggaa tgccacatcc tcctctgccg gagaccagtc tggaagccca actgcctatg 720
gggttattgc agctgctgcg gtgctcagtg caagcctggt caccgccacc ctcctccttt 780
tgtcctggct ccgagcccag gagcgcctcc gcccactggg gttactggtg gccatgaagg 840
agtccctgct gctgtcagaa cagaagacct cgctgccctg aggacaagca cttgccacca 900
ccgtcactca gccctgggcg tagccggaca ggaggagagc agtgatgcgg atgggtaccc 960
gggcacacca gccctcagag acctgagttc ttctggccac gtggaacctc gaacccgagc 1020
tectgeagaa gtggeeetgg agattgaggg teeetggaca eteeetatgg agateegggg 1080
agctaggatg gggaacctgc cacagccaga actgaggggc tggccccagg cagctcccag 1140
ggggtagaac ggccctgtgc ttaagacact ccctgctgcc ccgtctgagg gtggcgatta 1200
                                                                  1210
aaqttqcttc
<210> 127
<211> 282
<212> PRT
<213> Homo sapiens
Met Ser Gly Gly Trp Met Ala Gln Val Gly Ala Trp Arg Thr Gly Ala
  1
Leu Gly Leu Ala Leu Leu Leu Leu Gly Leu Gly Leu Glu
                                 25
Ala Ala Ala Ser Pro Leu Ser Thr Pro Thr Ser Ala Gln Ala Ala Gly
         35
                             40
Pro Ser Ser Gly Ser Cys Pro Pro Thr Lys Phe Gln Cys Arg Thr Ser
Gly Leu Cys Val Pro Leu Thr Trp Arg Cys Asp Arg Asp Leu Asp Cys
                                          75
```

Ser Asp Gly Ser Asp Glu Glu Glu Cys Arg Ile Glu Pro Cys Thr Gln 85 90 95

Lys Gly Gln Cys Pro Pro Pro Pro Gly Leu Pro Cys Pro Cys Thr Gly
100 105 110

Val Ser Asp Cys Ser Gly Gly Thr Asp Lys Leu Arg Asn Cys Ser 115 120 125

Arg Leu Ala Cys Leu Ala Gly Glu Leu Arg Cys Thr Leu Ser Asp Asp 130 135 140

Cys Ile Pro Leu Thr Trp Arg Cys Asp Gly His Pro Asp Cys Pro Asp 145 150 155 160

Ser Ser Asp Glu Leu Gly Cys Gly Thr Asn Glu Ile Leu Pro Glu Gly
165 170 175

Asp Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val Thr Ser 180 185 190

Leu Arg Asn Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val 195 200 205

Pro Ser Val Gly Asn Ala Thr Ser Ser Ser Ala Gly Asp Gln Ser Gly 210 215 220

Ser Pro Thr Ala Tyr Gly Val Ile Ala Ala Ala Ala Val Leu Ser Ala 225 230 235 240

Ser Leu Val Thr Ala Thr Leu Leu Leu Leu Ser Trp Leu Arg Ala Gln 245 250 255

Glu Arg Leu Arg Pro Leu Gly Leu Leu Val Ala Met Lys Glu Ser Leu 260 265 270

Leu Leu Ser Glu Gln Lys Thr Ser Leu Pro 275 280

<210> 128

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide probe

<400> 128

aagttccagt gccgcaccag tggc

```
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 129
ttqqttccac aqccqaqctc qtcq
                                                                   24
<210> 130
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 130
                                                                   50
gaggaggagt gcaggattga gccatgtacc cagaaagggc aatgcccacc
<210> 131
<211> 1843
<212> DNA
<213> Homo sapiens
<220>
<221> modified base
<222> (1837)
<223> a, t, c or q
<400> 131
cccacgegte eggteteget egetegegea geggeggeag cagaggtege geacagatge 60
gggttagact ggcggggga ggaggcggag gagggaagga agctgcatgc atgagaccca 120
cagactettg caagetggat geeetetgtg gatgaaagat gtateatgga atgaaceega 180
gcaatqqaqa tqqatttcta qaqcaqcaqc aqcaqcaqca qcaacctcaq tccccccaqa 240
gactettgge egtgateetg tggttteage tggegetgtg etteggeeet geacagetea 300
cgggcgggtt cgatgacctt caagtgtgtg ctgaccccgg cattcccqag aatggcttca 360
ggacccccag cggaggggtt ttctttgaag gctctgtagc ccgatttcac tgccaaqacg 420
gattcaagct gaagggcgct acaaagagac tgtgtttqaa gcattttaat ggaaccctaq 480
gctggatccc aagtgataat tccatctqtg tqcaaqaaqa ttqccqtatc cctcaaatcq 540
aagatgetga gatteataac aagacatata gacatggaga gaagetaate atcaettgte 600
atgaaggatt caagatccgg taccccgacc tacacaatat ggtttcatta tgtcgcgatg 660
atggaacgtg gaataatctg cccatctgtc aaggctgcct gagacctcta gcctcttcta 720
atggetatgt aaacatetet gageteeaga eeteetteee ggtggggaet gtgateteet 780
ategetgett teeeggattt aaacttgatg ggtetgegta tettgagtge ttacaaaacc 840
ttatctggtc gtccagccca ccccggtgcc ttqctctgga aqcccaaqtc tgtccactac 900
ctccaatggt gagtcacgga gatttcgtct gccacccgcg gccttgtgag cgctacaacc 960
acggaactgt ggtggagttt tactgcgatc ctggctacag cctcaccagc gactacaagt 1020
acatcacctg ccagtatgga gagtggtttc cttcttatca agtctactgc atcaaatcag 1080
agcaaacgtg gcccagcacc catgagaccc tcctgaccac gtggaagatt gtggcgttca 1140
```

```
cggcaaccag tgtgctgctg gtgctgctgc tcgtcatcct ggccaggatg ttccagacca 1200
agttcaaggc ccactttccc cccagggggc ctccccggag ttccagcagt gaccctgact 1260
ttgtggtggt agacggcgtg cccgtcatgc tcccgtccta tgacgaagct gtgagtggcg 1320
gettgagtge ettaggeece gggtacatgg eetetgtggg ecagggetge eeettaceeg 1380
tggacgacca gagcccccca gcataccccg gctcagggga cacggacaca ggcccagggg 1440
agtcagaaac ctgtgacagc gtctcaggct cttctgagct gctccaaagt ctgtattcac 1500
ctcccaggtg ccaagagagc acccacctg cttcggacaa ccctgacata attgccagca 1560
cggcagagga ggtggcatcc accagcccag gcatccatca tgcccactgg gtgttgttcc 1620
taagaaactg attgattaaa aaatttccca aagtgtcctg aagtgtctct tcaaatacat 1680
gttgatctgt ggagttgatt cctttccttc tcttggtttt agacaaatgt aaacaaagct 1740
ctgatcctta aaattgctat gctgatagag tggtgagggc tggaagcttg atcaagtcct 1800
qtttcttctt qacacaqact qattaaaaat taaaaqnaaa aaa
<210> 132
<211> 490
<212> PRT
<213> Homo sapiens
<400> 132
Met Tyr His Gly Met Asn Pro Ser Asn Gly Asp Gly Phe Leu Glu Gln
                  5
Gln Gln Gln Gln Gln Pro Gln Ser Pro Gln Arg Leu Leu Ala Val
             20
                                 25
                                                     30
Ile Leu Trp Phe Gln Leu Ala Leu Cys Phe Gly Pro Ala Gln Leu Thr
Gly Gly Phe Asp Asp Leu Gln Val Cys Ala Asp Pro Gly Ile Pro Glu
     50
Asn Gly Phe Arg Thr Pro Ser Gly Gly Val Phe Phe Glu Gly Ser Val
Ala Arg Phe His Cys Gln Asp Gly Phe Lys Leu Lys Gly Ala Thr Lys
Arg Leu Cys Leu Lys His Phe Asn Gly Thr Leu Gly Trp Ile Pro Ser
Asp Asn Ser Ile Cys Val Glu Glu Asp Cys Arg Ile Pro Gln Ile Glu
                            120
Asp Ala Glu Ile His Asn Lys Thr Tyr Arg His Gly Glu Lys Leu Ile
    130
                        135
Ile Thr Cys His Glu Gly Phe Lys Ile Arg Tyr Pro Asp Leu His Asn
                    150
Met Val Ser Leu Cys Arg Asp Asp Gly Thr Trp Asn Asn Leu Pro Ile
                165
                                    170
                                                         175
Cys Gln Gly Cys Leu Arg Pro Leu Ala Ser Ser Asn Gly Tyr Val Asn
```

			180					185					190		
Ile	Ser	Glu 195	Leu	Gln	Thr	Ser	Phe 200	Pro	Val	Gly	Thr	Val 205	Ile	Ser	Tyr
Arg	Cys 210	Phe	Pro	Gly	Phe	Lys 215	Leu	Asp	Gly	Ser	Ala 220	Tyr	Leu	Glu	Cys
Leu 225	Gln	Asn	Leu	Ile	Trp 230	Ser	Ser	Ser	Pro	Pro 235	Arg	Cys	Leu	Ala	Leu 240
Glu	Ala	Gln	Val	Cys 245	Pro	Leu	Pro	Pro	Met 250	Val	Ser	His	Gly	Asp 255	Phe
Val	Cys	His	Pro 260	Arg	Pro	Cys	Glu	Arg 265	Tyr	Asn	His	Gly	Thr 270	Val	Val
Glu	Phe	Tyr 275	Cys	Asp	Pro	Gly	Tyr 280	Ser	Leu	Thr	Ser	Asp 285	Tyr	Lys	Tyr
Ile	Thr 290	Cys	Gln	Tyr	Gly	Glu 295	Trp	Phe	Pro	Ser	Tyr 300	Gln	Val	Tyr	Cys
Ile 305	Lys	Ser	Glu	Gln	Thr 310	Trp	Pro	Ser	Thr	His 315	Glu	Thr	Leu	Leu	Thr 320
Thr	Trp	Lys	Ile	Val 325	Ala	Phe	Thr	Ala	Thr 330	Ser	Val	Leu	Leu	Val 335	Leu
Leu	Leu	Val	Ile 340	Leu	Ala	Arg	Met	Phe 345	Gln	Thr	Lys	Phe	Lys 350	Ala	His
Phe	Pro	Pro 355	Arg	Gly	Pro	Pro	Arg 360	Ser	Ser	Ser	Ser	Asp 365	Pro	Asp	Phe
Val	Val 370	Val	Asp	Gly	Val	Pro 375	Val	Met	Leu	Pro	Ser 380	Tyr	Asp	Glu	Ala
Val 385	Ser	Gly	Gly	Leu	Ser 390		Leu	Gly	Pro	Gly 395	_	Met	Ala	Ser	Val 400
Gly	Gln	Gly	Cys	Pro 405	Leu	Pro	Val	Asp	Asp 410	Gln	Ser	Pro	Pro	Ala 415	Tyr
Pro	Gly	Ser	Gly 420	Asp	Thr	Asp	Thr	Gly 425	Pro	Gly	Glu	Ser	Glu 430	Thr	Cys
Asp	Ser	Val 435	Ser	Gly	Ser	Ser	Glu 440	Leu	Leu	Gln	Ser	Leu 445	Tyr	Ser	Pro
Pro	Arg 450	Cys	Gln	Glu	Ser	Thr 455	His	Pro	Ala	Ser	Asp 460	Asn	Pro	Asp	Ile

```
Ile Ala Ser Thr Ala Glu Glu Val Ala Ser Thr Ser Pro Gly Ile His
                    470
                                         475
                                                             480
465
His Ala His Trp Val Leu Phe Leu Arg Asn
                485
<210> 133
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 133
                                                                   23
atctcctatc gctgctttcc cgg
<210> 134
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 134
                                                                    23
agccaggatc gcagtaaaac tcc
<210> 135
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 135
                                                                   50
atttaaactt gatgggtctg cgtatcttga gtgcttacaa aaccttatct
<210> 136
<211> 1815
<212> DNA
<213> Homo sapiens
<400> 136
cccacgegtc cgctccgcgc cctcccccc gcctcccgtg cggtccgtcg gtggcctaga 60
gatgetgetg eegeggttge agttgtegeg caegeetetg eeegeeagee egeteeaceg 120
ccgtagcgcc cgagtgtcgg ggggcgcacc cgagtcgggc catgaggccg ggaaccgcgc 180
tacaggeegt getgetggee gtgetgetgg tggggetgeg ggeegegaeg ggtegeetge 240
tgagtgcctc ggatttggac ctcagaggag ggcagccagt ctgccgggga gggacacaga 300
```

```
ggccttgtta taaagtcatt tacttccatg atacttctcg aagactgaac tttgaggaag 360
ccaaagaagc ctgcaggagg gatggaggcc agctagtcag catcgagtct gaagatgaac 420
agaaactgat agaaaagtte attgaaaace tettgecate tgatggtgae ttetggattg 480
ggctcaggag gcgtgaggag aaacaaagca atagcacagc ctgccaggac ctttatgctt 540
ggactgatgg cagcatatca caatttagga actggtatgt ggatgagccg tcctgcgqca 600
gegaggtetg egtggteatg taccateage categgeace egetggeate ggaggeeeet 660
acatqttcca qtqqaatqat qaccqqtqca acatqaaqaa caatttcatt tqcaaatatt 720
ctgatgagaa accagcagtt ccttctagag aagctgaagg tgaggaaaca gagctgacaa 780
cacctgtact tccagaagaa acacaggaag aagatgccaa aaaaacattt aaagaaagta 840
gagaagetge ettgaatetg geetacatee taateeecag eatteeeett eteeteetee 900
ttgtggtcac cacagttgta tgttgggttt ggatctgtag aaaaagaaaa cgggagcagc 960
cagaccctag cacaaagaag caacacacca totggccctc toctcaccag ggaaacagcc 1020
cggacctaga ggtctacaat gtcataagaa aacaaagcga agctgactta gctgagaccc 1080
qqccaqacct qaaqaatatt tcattccqaq tqtqttcqqq aqaaqccact cccqatqaca 1140
tgtcttgtga ctatqacaac atgqctgtga acccatcaga aagtgggttt gtgactctgg 1200
tgagcgtgga gagtggattt gtgaccaatg acatttatga gttctcccca gaccaaatgg 1260
ggaggagtaa ggagtctgga tgggtggaaa atgaaatata tggttattag gacatataaa 1320
aaactgaaac tgacaacaat ggaaaagaaa tgataagcaa aatcctctta ttttctataa 1380
ggaaaataca cagaaggtct atgaacaagc ttagatcagg tcctgtggat gagcatgtgg 1440
tecceaegae etectgttgg acceeeaegt tttggetgta teetttatee eageeagtea 1500
tccagctcga ccttatgaga aggtaccttg cccaggtctg gcacatagta gagtctcaat 1560
aaatgtcact tggttggttg tatctaactt ttaagggaca gagctttacc tggcagtgat 1620
aaagatgggc tgtggagctt ggaaaaccac ctctgttttc cttgctctat acagcagcac 1680
atattatcat acagacagaa aatccagaat cttttcaaag cccacatatg gtagcacagg 1740
ttggcctgtg catcggcaat tctcatatct gtttttttca aagaataaaa tcaaataaag 1800
agcaggaaaa aaaaa
                                                                  1815
<210> 137
<211> 382
<212> PRT
<213> Homo sapiens
<400> 137
Met Arg Pro Gly Thr Ala Leu Gln Ala Val Leu Leu Ala Val Leu Leu
  1
Val Gly Leu Arg Ala Ala Thr Gly Arg Leu Leu Ser Ala Ser Asp Leu
Asp Leu Arg Gly Gly Gln Pro Val Cys Arg Gly Gly Thr Gln Arg Pro
         35
Cys Tyr Lys Val Ile Tyr Phe His Asp Thr Ser Arg Arg Leu Asn Phe
                         55
Glu Glu Ala Lys Glu Ala Cys Arg Arg Asp Gly Gly Gln Leu Val Ser
Ile Glu Ser Glu Asp Glu Gln Lys Leu Ile Glu Lys Phe Ile Glu Asn
```

Leu Leu Pro Ser Asp Gly Asp Phe Trp Ile Gly Leu Arg Arg Glu
100 105 110

_		_		_							_				
	-	115					120	•		-		125		_	
Glu	Lys	Gln	Ser	Asn	Ser	${ t Thr}$	Ala	Cys	${\tt Gln}$	Asp	Leu	Tyr	Ala	Trp	Thr

- Asp Gly Ser Ile Ser Gln Phe Arg Asn Trp Tyr Val Asp Glu Pro Ser 130 135 140
- Cys Gly Ser Glu Val Cys Val Val Met Tyr His Gln Pro Ser Ala Pro 145 150 155 160
- Ala Gly Ile Gly Gly Pro Tyr Met Phe Gln Trp Asn Asp Asp Arg Cys
  165 170 175
- Asn Met Lys Asn Asn Phe Ile Cys Lys Tyr Ser Asp Glu Lys Pro Ala 180 185 190
- Val Pro Ser Arg Glu Ala Glu Gly Glu Glu Thr Glu Leu Thr Thr Pro 195 200 205
- Val Leu Pro Glu Glu Thr Gln Glu Glu Asp Ala Lys Lys Thr Phe Lys 210 215 220
- Glu Ser Arg Glu Ala Ala Leu Asn Leu Ala Tyr Ile Leu Ile Pro Ser 225 230 235 240
- Ile Pro Leu Leu Leu Leu Val Val Thr Thr Val Val Cys Trp Val
  245 250 255
- Trp Ile Cys Arg Lys Arg Lys Arg Glu Gln Pro Asp Pro Ser Thr Lys 260 265 270
- Lys Gln His Thr Ile Trp Pro Ser Pro His Gln Gly Asn Ser Pro Asp 275 280 285
- Leu Glu Val Tyr Asn Val Ile Arg Lys Gln Ser Glu Ala Asp Leu Ala 290 295 300
- Glu Thr Arg Pro Asp Leu Lys Asn Ile Ser Phe Arg Val Cys Ser Gly 305 310 315 320
- Glu Ala Thr Pro Asp Asp Met Ser Cys Asp Tyr Asp Asn Met Ala Val 325 330 335
- Asn Pro Ser Glu Ser Gly Phe Val Thr Leu Val Ser Val Glu Ser Gly 340 345 350
- Phe Val Thr Asn Asp Ile Tyr Glu Phe Ser Pro Asp Gln Met Gly Arg 355 360 365
- Ser Lys Glu Ser Gly Trp Val Glu Asn Glu Ile Tyr Gly Tyr 370 375 380

```
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 138
qttcattqaa aacctcttqc catctqatqq tqacttctqq attqqqctca
                                                                   50
<210> 139
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 139
                                                                   24
aagccaaaga agcctgcagg aggg
<210> 140
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 140
                                                                   24
cagtccaagc ataaaggtcc tggc
<210> 141
<211> 1514
<212> DNA
<213> Homo sapiens
<400> 141
ggggtctccc tcagggccgg gaggcacagc ggtccctgct tgctgaaggg ctggatgtac 60
gcatccgcag gttcccgcgg acttgggggc gcccgctgag ccccggcgcc cgcagaagac 120
ttgtgtttgc ctcctqcaqc ctcaacccqq aqqqcaqcqa qqqcctacca ccatqatcac 180
tggtgtgtte agcatgeget tgtggacece agtgggegte etgacetege tggegtactg 240
cctgcaccag cggcggttgg ccctggccga gctgcaggag gccgatggcc agtgtccggt 300
cgaccgcagc ctgctgaagt tgaaaatggt gcaggtcgtg tttcgacacg gggctcggag 360
tecteteaag cegeteeege tggaggagea ggtagagtgg aacceeeage tattagaggt 420
cccacccaa actcagtttg attacacagt caccaatcta gctggtggtc cgaaaccata 480
ttctccttac gactctcaat accatgagac caccetgaag gggggcatgt ttgctgggca 540
gctgaccaag gtgggcatgc agcaaatgtt tqccttqqqa qaqaqactqa qqaaqaacta 600
tgtggaagac attccctttc tttcaccaac cttcaaccca caggaggtct ttattcgttc 660
cactaacatt tttcggaatc tggagtccac ccgttqtttg ctggctgggc ttttccaqtg 720
```

```
tcagaaagaa ggacccatca tcatccacac tgatgaagca gattcagaag tcttgtatcc 780
caactaccaa agctgctgga gcctgaggca gagaaccaga ggccggaggc agactgcctc 840
tttacagcca ggaatctcag aggatttgaa aaaggtgaag gacaggatgg gcattgacag 900
taqtqataaa qtqqacttct tcatcctcct ggacaacgtg gctgccgagc aggcacacaa 960
cctcccaaqc tqccccatqc tqaaqagatt tgcacggatg atcgaacaga gagctgtgga 1020
cacateettq tacatactge ccaaggaaga cagggaaagt etteagatgg cagtaggeec 1080
attectecae atectaqaqa qeaacetqet qaaageeatg gactetgeea etgeceeega 1140
caaqatcaqa aaqctqtatc tctatqcqqc tcatqatgtg accttcatac cgctcttaat 1200
gaccctgggg atttttgacc acaaatggcc accgtttgct gttgacctga ccatggaact 1260
ttaccaqcac ctggaatcta aggagtggtt tgtgcagctc tattaccacg ggaaggagca 1320
ggtqccqaqa ggttgccctg atgggctctg cccgctggac atgttcttga atgccatgtc 1380
agtttatacc ttaagcccag aaaaatacca tgcactctgc tctcaaactc aggtgatgga 1440
aqttqqaaat qaaqaqtaac tgatttataa aagcaggatg tgttgatttt aaaataaagt 1500
gcctttatac aatg
<210> 142
<211> 428
<212> PRT
<213> Homo sapiens
<400> 142
Met Ile Thr Gly Val Phe Ser Met Arg Leu Trp Thr Pro Val Gly Val
                                     1.0
Leu Thr Ser Leu Ala Tyr Cys Leu His Gln Arg Arg Val Ala Leu Ala
             20
Glu Leu Gln Glu Ala Asp Gly Gln Cys Pro Val Asp Arg Ser Leu Leu
Lys Leu Lys Met Val Gln Val Val Phe Arg His Gly Ala Arg Ser Pro
     50
                         55
Leu Lys Pro Leu Pro Leu Glu Glu Gln Val Glu Trp Asn Pro Gln Leu
Leu Glu Val Pro Pro Gln Thr Gln Phe Asp Tyr Thr Val Thr Asn Leu
                                      90
Ala Gly Gly Pro Lys Pro Tyr Ser Pro Tyr Asp Ser Gln Tyr His Glu
                                105
            100
Thr Thr Leu Lys Gly Gly Met Phe Ala Gly Gln Leu Thr Lys Val Gly
                            120
Met Gln Gln Met Phe Ala Leu Gly Glu Arg Leu Arg Lys Asn Tyr Val
    130
                        135
Glu Asp Ile Pro Phe Leu Ser Pro Thr Phe Asn Pro Gln Glu Val Phe
145
                    150
                                         155
Ile Arq Ser Thr Asn Ile Phe Arq Asn Leu Glu Ser Thr Arg Cys Leu
                165
                                     170
```

Leu Ala Gly Leu Phe Gln Cys Gln Lys Glu Gly Pro Ile Ile His
180 185 190

Thr Asp Glu Ala Asp Ser Glu Val Leu Tyr Pro Asn Tyr Gln Ser Cys 195 200 205

Trp Ser Leu Arg Gln Arg Thr Arg Gly Arg Arg Gln Thr Ala Ser Leu 210 215 220

Gln Pro Gly Ile Ser Glu Asp Leu Lys Lys Val Lys Asp Arg Met Gly 225 230 235 240

Ile Asp Ser Ser Asp Lys Val Asp Phe Phe Ile Leu Leu Asp Asn Val 245 250 255

Ala Ala Glu Gln Ala His Asn Leu Pro Ser Cys Pro Met Leu Lys Arg 260 265 270

Phe Ala Arg Met Ile Glu Gln Arg Ala Val Asp Thr Ser Leu Tyr Ile 275 280 285

Leu Pro Lys Glu Asp Arg Glu Ser Leu Gln Met Ala Val Gly Pro Phe 290 295 300

Leu His Ile Leu Glu Ser Asn Leu Leu Lys Ala Met Asp Ser Ala Thr 305 310 315 320

Ala Pro Asp Lys Ile Arg Lys Leu Tyr Leu Tyr Ala Ala His Asp Val 325 330 335

Thr Phe Ile Pro Leu Leu Met Thr Leu Gly Ile Phe Asp His Lys Trp 340 345 350

Pro Pro Phe Ala Val Asp Leu Thr Met Glu Leu Tyr Gln His Leu Glu 355 360 365

Ser Lys Glu Trp Phe Val Gln Leu Tyr Tyr His Gly Lys Glu Gln Val 370 380

Pro Arg Gly Cys Pro Asp Gly Leu Cys Pro Leu Asp Met Phe Leu Asn 385 390 395 400

Ala Met Ser Val Tyr Thr Leu Ser Pro Glu Lys Tyr His Ala Leu Cys 405 410 415

Ser Gln Thr Gln Val Met Glu Val Gly Asn Glu Glu
420
425

<210> 143

<211> 24

<212> DNA

<213> Artificial Sequence

<220> <223>	Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> ccaact	143 cacca aagctgctgg agcc	24
<210><211><212><213>	24	
<220> <223>	Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> gcagct	144 cctat taccacggga agga	24
<210><211><211><212><213>	24	
<220> <223>	Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> tcctto	145 cccgt ggtaatagag ctgc	24
<210><211><211><212><213>	45	
<220> <223>	Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> ggcag	146 agaac cagaggcegg aggagactge etetttacag ecagg	45
<210><211><212><212><213>	1686	
cttaa	147 cttaa catacttgca gctaaaacta aatattgctg cttggggacc tccttctagc atttc agctcatcac cttcacctgc cttggtcatg gctctgctat tctccttgat ccatt tgcaccagac ctggattcct agcgtctcca tctggagtgc ggctggtggg	120

65

```
gggcctccac cgctgtgaag ggcgggtgga ggtggaacag aaaggccagt ggggcaccgt 240
gtgtgatgac ggctgggaca ttaaggacgt ggctgtgttg tgccgggagc tgggctgtgg 300
agctgccagc ggaaccccta gtggtatttt gtatgagcca ccagcagaaa aagagcaaaa 360
ggtcctcatc caatcagtca gttgcacagg aacagaagat acattggctc agtgtgagca 420
agaagaagtt tatgattgtt cacatgatga agatgctggg gcatcgtgtg agaacccaga 480
gagetettte tecceagtee cagagggtgt caggetgget gaeggeeetg ggeattgeaa 540
gggacgcgtg gaagtgaagc accagaacca gtggtatacc gtgtgccaga caggctggag 600
cctccgggcc gcaaaggtgg tgtgccggca gctgggatgt gggagggctg tactgactca 660
aaaacgctgc aacaagcatg cctatggccg aaaacccatc tggctgagcc agatgtcatg 720
ctcaggacga gaagcaaccc ttcaggattg cccttctggg ccttggggga agaacacctg 780
caaccatgat gaagacacgt gggtcgaatg tgaagatccc tttgacttga gactagtagg 840
aggagacaac ctctgctctg ggcgactgga ggtgctgcac aagggcgtat ggggctctgt 900
ctgtgatgac aactggggag aaaaggagga ccaggtggta tgcaagcaac tgggctgtgg 960
gaagtccctc tctccctcct tcagagaccg gaaatgctat ggccctgggg ttggccgcat 1020
ctggctggat aatgttcgtt gctcagggga ggagcagtcc ctggagcagt gccagcacag 1080
attttggggg tttcacgact gcacccacca ggaagatgtg gctgtcatct gctcagtgta 1140
ggtgggcatc atctaatctg ttgagtgcct gaatagaaga aaaacacaga agaagggagc 1200
atttactgtc tacatgactg catgggatga acactgatct tcttctgccc ttggactggg 1260
acttatactt ggtgcccctg attctcaggc cttcagagtt ggatcagaac ttacaacatc 1320
aggtctagtt ctcaggccat cagacatagt ttggaactac atcaccacct ttcctatgtc 1380
tccacattgc acacagcaga ttcccagcct ccataattgt gtgtatcaac tacttaaata 1440
catteteaca cacacacaca cacacacaca cacacacaca cacacataca ccatttgtcc 1500
tgtttctctg aagaactctg acaaaataca gattttggta ctgaaagaga ttctagagga 1560
acggaatttt aaggataaat tttctgaatt ggttatgggg tttctgaaat tggctctata 1620
atctaattag atataaaatt ctggtaactt tatttacaat aataaagata gcactatgtg 1680
                                                                   1686
ttcaaa
<210> 148
<211> 347
<212> PRT
<213> Homo sapiens
<400> 148
Met Ala Leu Leu Phe Ser Leu Ile Leu Ala Ile Cys Thr Arg Pro Gly
Phe Leu Ala Ser Pro Ser Gly Val Arg Leu Val Gly Gly Leu His Arg
Cys Glu Gly Arg Val Glu Val Glu Gln Lys Gly Gln Trp Gly Thr Val
                              40
         35
Cys Asp Asp Gly Trp Asp Ile Lys Asp Val Ala Val Leu Cys Arg Glu
Leu Gly Cys Gly Ala Ala Ser Gly Thr Pro Ser Gly Ile Leu Tyr Glu
```

70

Pro Pro Ala Glu Lys Glu Gln Lys Val Leu Ile Gln Ser Val Ser Cys

Thr Gly Thr Glu Asp Thr Leu Ala Gln Cys Glu Gln Glu Glu Val Tyr

105

Asp Cys Ser His Asp Glu Asp Ala Gly Ala Ser Cys Glu Asn Pro Glu 115 120 125

Ser Ser Phe Ser Pro Val Pro Glu Gly Val Arg Leu Ala Asp Gly Pro 130 135 140

Gly His Cys Lys Gly Arg Val Glu Val Lys His Gln Asn Gln Trp Tyr 145 150 155 160

Thr Val Cys Gln Thr Gly Trp Ser Leu Arg Ala Ala Lys Val Val Cys 165 170 175

Arg Gln Leu Gly Cys Gly Arg Ala Val Leu Thr Gln Lys Arg Cys Asn 180 185 190

Lys His Ala Tyr Gly Arg Lys Pro Ile Trp Leu Ser Gln Met Ser Cys 195 200 205

Ser Gly Arg Glu Ala Thr Leu Gln Asp Cys Pro Ser Gly Pro Trp Gly 210 215 220

Lys Asn Thr Cys Asn His Asp Glu Asp Thr Trp Val Glu Cys Glu Asp 225 230 230 235 240

Pro Phe Asp Leu Arg Leu Val Gly Gly Asp Asn Leu Cys Ser Gly Arg 245 250 255

Leu Glu Val Leu His Lys Gly Val Trp Gly Ser Val Cys Asp Asp Asn 260 265 270

Trp Gly Glu Lys Glu Asp Gln Val Val Cys Lys Gln Leu Gly Cys Gly 275 280 285

Lys Ser Leu Ser Pro Ser Phe Arg Asp Arg Lys Cys Tyr Gly Pro Gly 290 295 300

Val Gly Arg'lle Trp Leu Asp Asn Val Arg Cys Ser Gly Glu Glu Gln 305 310 315 320

Ser Leu Glu Gln Cys Gln His Arg Phe Trp Gly Phe His Asp Cys Thr 325 330 335

His Gln Glu Asp Val Ala Val Ile Cys Ser Val 340 345

<210> 149

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

## oligonucleotide probe

<400> 149 ttcagctcat caccttcacc tgcc 24	
<210> 150 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 150 ggctcataca aaataccact aggg	
<210> 151 <211> 50 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 151 gggcctccac cgctgtgaag ggcgggtgga ggtggaacag aaaggccagt 50	
<210> 152 <211> 1427 <212> DNA <213> Homo sapiens	
actgcactcg gttctatcga ttgaattcc cggggatcct ctagagatcc ctcgacctcg 60 acccacgcgt ccgcggacgc gtgggcggac gcgtgggccg gctaccagga ggaggtgaag gccatggact tcatcacctc cacagccatc ctgcccctgc cttcggcgtc ttcggcctct tccggctgct gcagtgggtg ggcaaagaag gtgaatgctgtg gtggtgatca caggcgcacc ctcagggctg gggaaagaag gtgcaaagaa actctagac ctctatgct gcgggtgcta aactggtgct caccaaggtg cagacaacaa agccttactt 420 ggtgaccttc gacctcacaa actctgggc caccaaggtg cagacacaca agccttactt 420 ggtgctttggc tatgtcgaca tacttgcaa caatgctggg ggtaaaagaag acaaactact ttggccag acaagaaga ggcaaagaag ggtcatgaacac acaagtggaag ggtcatggaag acaaactact ttggcccag acaagaagag ggtcatggaaga acaaactact ttggcccag acacacaaggtg cagacacaca agccttactt 420 ggtgctttggc tatgtcgaca tacttgtcaa caatgctggg acaaaactact ttggcccag acaagaagag ttggacaagag ggtcatggag acaaactact ttggcccag acacacaca agccttact 420 gaccacacac acagtggatg tggacaagaag ggtcatggag acaaactact ttggcccagt 600 acacacagac caggcttcc ttgaccacacacacacacacacacacacacacacacacac	

agggccaggg cagagaagca gcactcttag gcttgcttac tctacaaggg acagttgcat 1140 ttgttgagac tttaatggag atttgtctca caagtgggaa agactgaaga aacacatctc 1200 gtgcagatct gctggcagag gacaatcaaa aacgacaaca agcttcttcc cagggtgagg 1260 ggaaacactt aaggaataaa tatggagctg gggtttaaca ctaaaaacta gaaataaaca 1320 tctcaaacag taaaaaaaa aaaaaaggc ggccgcgact ctagagtcga cctgcagaag 1380 cttggccgcc atggcccaac ttgtttattg cagcttataa tggttac 1427

<210> 153

<211> 310

<212> PRT

<213> Homo sapiens

<400> 153

Met Asp Phe Ile Thr Ser Thr Ala Ile Leu Pro Leu Leu Phe Gly Cys
1 5 10 15

Leu Gly Val Phe Gly Leu Phe Arg Leu Leu Gln Trp Val Arg Gly Lys 20 25 30

Ala Tyr Leu Arg Asn Ala Val Val Val Ile Thr Gly Ala Thr Ser Gly 35 40 45

Leu Gly Lys Glu Cys Ala Lys Val Phe Tyr Ala Ala Gly Ala Lys Leu 50 55 60

Val Leu Cys Gly Arg Asn Gly Gly Ala Leu Glu Glu Leu Ile Arg Glu
65 70 75 80

Leu Thr Ala Ser His Ala Thr Lys Val Gln Thr His Lys Pro Tyr Leu 85 90 95

Val Thr Phe Asp Leu Thr Asp Ser Gly Ala Ile Val Ala Ala Ala Ala 100 105 110

Glu Ile Leu Gln Cys Phe Gly Tyr Val Asp Ile Leu Val Asn Asn Ala 115 120 125

Gly Ile Ser Tyr Arg Gly Thr Ile Met Asp Thr Thr Val Asp Val Asp 130 135 140

Lys Arg Val Met Glu Thr Asn Tyr Phe Gly Pro Val Ala Leu Thr Lys 145 150 155 160

Ala Leu Leu Pro Ser Met Ile Lys Arg Gln Gly His Ile Val Ala 165 170 175

Ile Ser Ser Ile Gln Gly Lys Met Ser Ile Pro Phe Arg Ser Ala Tyr 180 185 190

Ala Ala Ser Lys His Ala Thr Gln Ala Phe Phe Asp Cys Leu Arg Ala 195 200 205

Glu Met Glu Gln Tyr Glu Ile Glu Val Thr Val Ile Ser Pro Gly Tyr

	210					215					220					
Ile 225	His	Thr	Asn	Leu	Ser 230	Val	Asn	Ala	Ile	Thr 235	Ala	Asp	Gly	Ser	Arg 240	
Tyr	Gly	Val	Met	Asp 245	Thr	Thr	Thr	Ala	Gln 250	Gly	Arg	Ser	Pro	Val 255	Glu	
Val	Ala	Gln	Asp 260	Val	Leu	Ala	Ala	Val 265	Gly	Lys	Lys	Lys	Lys 270	Asp	Val	
Ile	Leu	Ala 275	Asp	Leu	Leu	Pro	Ser 280	Leu	Ala	Val	Tyr	Leu 285	Arg	Thr	Leu	
Ala	Pro 290	Gly	Leu	Phe	Phe	Ser 295	Leu	Met	Ala	Ser	Arg 300	Ala	Arg	Lys	Glu	
Arg 305	Lys	Ser	Lys	Asn	Ser 310											
<213 <212	0> 15 L> 24 2> Di 3> An	1 NA	icial	l Sec	quenc	ce										
<220 <223	3 > De		iptio nucle				cial	Seq	uence	e: Sj	ynth:	etic				
	)> 19 gctaa		tggt	gctct	tg tg	ggc										24
<213 <212	0> 1! 1> 20 2> DI 3> A:	0 An	icia	l Sed	quen	ce										
<220 <220	3> De		iptio nucle				cial	Seq	uence	e: S	ynth	etic				
	)> 1! ggca		tgag	catto	cc											20
<21:	0> 1! 1> 24 2> DI 3> A:	4 NA	icia:	l Sed	quen	ce										
<220 <220	3 > De		iptionucle				cial	Seq	uenc	e: S	ynth	etic				

```
<400> 156
                                                               24
tcatactgtt ccatctcggc acgc
<210> 157
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
     oligonucleotide probe
<400> 157
aatggtgggg ccctagaaga gctcatcaga gaactcaccg cttctcatgc
                                                               50
<210> 158
<211> 1771
<212> DNA
<213> Homo sapiens
<400> 158
cccacgcgtc cgctggtgtt agatcgagca accctctaaa agcagtttag agtggtaaaa 60
aaaaaaaaa acacaccaaa cgctcgcagc cacaaaaggg atgaaatttc ttctggacat 120
cctcctgctt ctcccgttac tgatcgtctg ctccctagag tccttcgtga agctttttat 180
tcctaagagg agaaaatcag tcaccggcga aatcgtgctg attacaggag ctgggcatgg 240
aattgggaga ctgactgcct atgaatttgc taaacttaaa agcaagctgg ttctctggga 300
tataaataag catggactgg aggaaacagc tgccaaatgc aagggactgg gtgccaaggt 360
tcataccttt gtggtagact gcagcaaccg agaagatatt tacagctctg caaagaaggt 420
gaaggcagaa attggagatg ttagtatttt agtaaataat gctggtgtag tctatacatc 480
agatttgttt gctacacaag atcctcagat tgaaaagact tttgaagtta atgtacttgc 540
acatttctgg actacaaagg catttcttcc tgcaatgacg aagaataacc atggccatat 600
tgtcactgtg gcttcggcag ctggacatgt ctcggtcccc ttcttactgg cttactgttc 660
aagcaagttt gctgctgttg gatttcataa aactttgaca gatgaactgg ctgccttaca 720
aataactgga gtcaaaacaa catgtctgtg tcctaatttc gtaaacactg gcttcatcaa 780
aaatccaagt acaagtttgg gacccactct ggaacctgag gaagtggtaa acaggctgat 840
gcatgggatt ctgactgagc agaagatgat ttttattcca tcttctatag cttttttaac 900
aacattggaa aggatccttc ctgagcgttt cctggcagtt ttaaaacgaa aaatcagtgt 960
taagtttgat gcagttattg gatataaaat gaaagcgcaa taagcaccta gttttctgaa 1020
aactgattta ccaggtttag gttgatgtca tctaatagtg ccagaatttt aatgtttgaa 1080
cttctgtttt ttctaattat ccccatttct tcaatatcat ttttgaggct ttggcagtct 1140
tcatttacta ccacttgttc tttagccaaa agctgattac atatgatata aacagagaaa 1200
tacctttaga ggtgacttta aggaaaatga agaaaaagaa ccaaaatgac tttattaaaa 1260
taatttccaa gattatttgt ggctcacctg aaggctttgc aaaatttgta ccataaccgt 1320
ttatttaaca tatatttta tttttgattg cacttaaatt ttgtataatt tgtgtttctt 1380
tttctgttct acataaaatc agaaacttca agctctctaa ataaaatgaa ggactatatc 1440
tagtggtatt tcacaatgaa tatcatgaac tctcaatggg taggtttcat cctacccatt 1500
gccactctgt ttcctgagag atacctcaca ttccaatgcc aaacatttct gcacagggaa 1560
gctagaggtg gatacacgtg ttgcaagtat aaaagcatca ctgggattta aggagaattg 1620
agagaatgta cccacaaatg gcagcaataa taaatggatc acacttaaaa aaaaaaaaa 1680
1771
```

<211> 300

<212> PRT

<213> Homo sapiens

<400> 159

Met Lys Phe Leu Leu Asp Ile Leu Leu Leu Pro Leu Leu Ile Val

Cys Ser Leu Glu Ser Phe Val Lys Leu Phe Ile Pro Lys Arg Arg Lys
20 25 30

Ser Val Thr Gly Glu Ile Val Leu Ile Thr Gly Ala Gly His Gly Ile 35 40 45

Gly Arg Leu Thr Ala Tyr Glu Phe Ala Lys Leu Lys Ser Lys Leu Val
50 55 60

Leu Trp Asp Ile Asn Lys His Gly Leu Glu Glu Thr Ala Ala Lys Cys 65 70 75 80

Lys Gly Leu Gly Ala Lys Val His Thr Phe Val Val Asp Cys Ser Asn 85 90 95

Arg Glu Asp Ile Tyr Ser Ser Ala Lys Lys Val Lys Ala Glu Ile Gly
100 105 110

Asp Val Ser Ile Leu Val Asn Asn Ala Gly Val Val Tyr Thr Ser Asp 115 120 125

Leu Phe Ala Thr Gln Asp Pro Gln Ile Glu Lys Thr Phe Glu Val Asn 130 135 140

Val Leu Ala His Phe Trp Thr Thr Lys Ala Phe Leu Pro Ala Met Thr 145 150 155 160

Lys Asn Asn His Gly His Ile Val Thr Val Ala Ser Ala Ala Gly His
165 170 175

Val Ser Val Pro Phe Leu Leu Ala Tyr Cys Ser Ser Lys Phe Ala Ala 180 185 . 190

Val Gly Phe His Lys Thr Leu Thr Asp Glu Leu Ala Ala Leu Gln Ile 195 200 205

Thr Gly Val Lys Thr Thr Cys Leu Cys Pro Asn Phe Val Asn Thr Gly
210 215 220

Phe Ile Lys Asn Pro Ser Thr Ser Leu Gly Pro Thr Leu Glu Pro Glu 225 230 235 240

Glu Val Val Asn Arg Leu Met His Gly Ile Leu Thr Glu Gln Lys Met
245 250 255

```
Ile Phe Ile Pro Ser Ser Ile Ala Phe Leu Thr Thr Leu Glu Arg Ile
            260
                                 265
                                                     270
Leu Pro Glu Arg Phe Leu Ala Val Leu Lys Arg Lys Ile Ser Val Lys
Phe Asp Ala Val Ile Gly Tyr Lys Met Lys Ala Gln
                        295
<210> 160
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 160
                                                                   23
ggtgaaggca gaaattggag atg
<210> 161
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 161
                                                                   24
atcccatgca tcagcctgtt tacc
<210> 162
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                   48
gctggtgtag tctatacatc agatttgttt gctacacaag atcctcag
<210> 163
<211> 2076
<212> DNA
<213> Homo sapiens
<400> 163
cccacgcgtc cgcggacgcg tgggtcgact agttctagat cgcgagcggc cgcccgcggc 60
tcagggagga gcaccgactg cgccgcaccc tgagagatgg ttggtgccat gtggaaggtg 120
```

```
attgtttege tggteetgtt gatgeetgge eeetgtgatg ggetgttteg etecetatae 180
aqaaqtqttt ccatqccacc taaggqaqac tcaggacaqc cattatttct caccccttac 240
attgaagctg ggaagatcca aaaaggaaga gaattgagtt tggtcggccc tttcccagga 300
ctgaacatga agagttatgc cggcttcctc accgtgaata agacttacaa cagcaacctc 360
ttettetggt tetteecage teagataeag ceagaagatg ceceagtagt tetetggeta 420
cagggtgggc cgggaggttc atccatgttt ggactctttg tggaacatgg gccttatgtt 480
gtcacaagta acatgacctt gcgtgacaga gacttcccct ggaccacaac gctctccatg 540
ctttacattg acaatccagt gggcacaggc ttcagtttta ctgatgatac ccacggatat 600
gcagtcaatq aggacgatqt agcacgggat ttatacagtq cactaattca gtttttccag 660
atatttcctq aatataaaaa taatqacttt tatqtcactq qqqaqtctta tqcaqqqaaa 720
tatgtgccag ccattgcaca cctcatccat tccctcaacc ctgtgagaga ggtgaagatc 780
aacctgaacg gaattgctat tggagatgga tattctgatc ccgaatcaat tatagggggc 840
tatgcaqaat tcctqtacca aattqqcttq ttqqatqaqa agcaaaaaaa qtacttccaq 900
aaqcaqtqcc atqaatqcat aqaacacatc aqqaaqcaqa actqqtttqa qqcctttqaa 960
atactqqata aactactaqa tqqcqactta acaaqtqatc cttcttactt ccaqaatqtt 1020
acaggatgta gtaattacta taactttttg cggtgcacgg aacctgagga tcagctttac 1080
tatgtgaaat ttttgtcact cccagaggtg agacaagcca tccacgtggg gaatcagact 1140
tttaatgatg gaactatagt tgaaaagtac ttgcgagaag atacagtaca gtcagttaag 1200
ccatggttaa ctgaaatcat gaataattat aaggttctga tctacaatgg ccaactggac 1260
atcategtgg cagetgeect gacagagege teettgatgg geatggactg gaaaggatee 1320
caggaataca agaaggcaga aaaaaaagtt tggaagatct ttaaatctga cagtgaagtg 1380
gctggttaca tccggcaagc gggtgacttc catcaggtaa ttattcgagg tggaggacat 1440
attttaccct atgaccaqcc tctgagagct tttgacatga ttaatcgatt catttatgga 1500
aaaggatggg atccttatgt tggataaact accttcccaa aagagaacat cagaggtttt 1560
cattgctgaa aagaaaatcg taaaaacaga aaatgtcata ggaataaaaa aattatcttt 1620
tcatatctgc aagatttttt tcatcaataa aaattatcct tgaaacaagt gagcttttgt 1680
ttttgggggg agatgtttac tacaaaatta acatgagtac atgagtaaga attacattat 1740
ttaacttaaa ggatgaaagg tatggatgat gtgacactga gacaagatgt ataaatgaaa 1800
ttttagggtc ttgaatagga agttttaatt tcttctaaga gtaagtgaaa agtgcagttg 1860
taacaaacaa agctgtaaca tettttetg ecaataacag aagtttggca tgeegtgaag 1920
gtgtttggaa atattattgg ataagaatag ctcaattatc ccaaataaat ggatgaagct 1980
ataatagttt tggggaaaag attotoaaat gtataaagto ttagaacaaa agaattottt 2040
gaaataaaaa tattatatat aaaagtaaaa aaaaaa
<210> 164
<211> 476
<212> PRT
<213> Homo sapiens
<400> 164
Met Val Gly Ala Met Trp Lys Val Ile Val Ser Leu Val Leu Leu Met
Pro Gly Pro Cys Asp Gly Leu Phe Arg Ser Leu Tyr Arg Ser Val Ser
Met Pro Pro Lys Gly Asp Ser Gly Gln Pro Leu Phe Leu Thr Pro Tyr
                             40
Ile Glu Ala Gly Lys Ile Gln Lys Gly Arg Glu Leu Ser Leu Val Gly
     50
                         55
```

Pro Phe Pro Gly Leu Asn Met Lys Ser Tyr Ala Gly Phe Leu Thr Val

65					70					75					80
Asn	Lys	Thr	Tyr	Asn 85	Ser	Asn	Leu	Phe	Phe 90	Trp	Phe	Phe	Pro	Ala 95	Gln
Ile	Gln	Pro	Glu 100	Asp	Ala	Pro	Val	Val 105	Leu	Trp	Leu	Gln	Gly 110	Gly	Pro
Gly	Gly	Ser 115	Ser	Met	Phe	Gly	Leu 120	Phe	Val	Glu	His	Gly 125	Pro	Tyr	Val
Val	Thr 130	Ser	Asn	Met	Thr	Leu 135	Arg	Asp	Arg	Asp	Phe 140	Pro	Trp	Thr	Thr
Thr 145	Leu	Ser	Met	Leu	Tyr 150	Ile	Asp	Asn	Pro	Val 155	Gly	Thr	Gly	Phe	Ser 160
Phe	Thr	Asp	Asp	Thr 165	His	Gly	Tyr	Ala	Val 170	Asn	Glu	Asp	Asp	Val 175	Ala
Arg	Asp	Leu	Tyr 180	Ser	Ala	Leu	Ile	Gln 185	Phe	Phe	Gln	Ile	Phe 190	Pro	Glu
Tyr	Lys	Asn 195	Asn	Asp	Phe	Tyr	Val 200	Thr	Gly	Glu	Ser	Tyr 205	Ala	Gly	Lys
Tyr	Val 210	Pro	Ala	Ile	Ala	His 215	Leu	Ile	His	Ser	Leu 220	Asn	Pro	Val	Arg
Glu 225	Val	Lys	Ile	Asn	Leu 230	Asn	Gly	Ile	Ala	Ile 235	Gly	Asp	Gly	Tyr	Ser 240
Asp	Pro	Glu	Ser	Ile 245	Ile	Gly	Gly	Tyr	Ala 250	Glu	Phe	Leu	Tyr	Gln 255	Ile
Gly	Leu	Leu	Asp 260	Glu	Lys	Gln	Lys	Lys 265	Tyr	Phe	Gln	Lys	Gln 270	Cys	His
Glu	Cys	Ile 275	Glu	His		Arg	_		Asn	Trp	Phe	Glu 285	Ala	Phe	Glu
Ile	Leu 290	Asp	Lys	Leu	Leu	Asp 295	Gly	Asp	Leu	Thr	Ser 300	Asp	Pro	Ser	Tyr
Phe 305	Gln	Asn	Val	Thr	Gly 310	Cys	Ser	Asn	Tyr	Tyr 315	Asn	Phe	Leu	Arg	Cys 320
Thr	Glu	Pro	Glu	Asp 325	Gln	Leu	Tyr	Tyr	Val 330	Lys	Phe	Leu	Ser	Leu 335	Pro
Glu	Val	Arg	Gln 340	Ala	Ile	His	Val	Gly	Asn	Gln	Thr	Phe	Asn	Asp	Gly

Thr Ile Val Glu Lys Tyr Leu Arg Glu Asp Thr Val Gln Ser Val Lys 355 360 365 Pro Trp Leu Thr Glu Ile Met Asn Asn Tyr Lys Val Leu Ile Tyr Asn 375 Gly Gln Leu Asp Ile Ile Val Ala Ala Ala Leu Thr Glu Arg Ser Leu 395 390 Met Gly Met Asp Trp Lys Gly Ser Gln Glu Tyr Lys Lys Ala Glu Lys 405 410 Lys Val Trp Lys Ile Phe Lys Ser Asp Ser Glu Val Ala Gly Tyr Ile 425 Arg Gln Ala Gly Asp Phe His Gln Val Ile Ile Arg Gly Gly His Ile Leu Pro Tyr Asp Gln Pro Leu Arg Ala Phe Asp Met Ile Asn Arg 455 Phe Ile Tyr Gly Lys Gly Trp Asp Pro Tyr Val Gly 470 <210> 165 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe <400> 165 24 ttccatgcca cctaagggag actc <210> 166 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe <400> 166 24 tggatgaggt gtgcaatggc tggc <210> 167 <211> 24 <212> DNA

<213> Artificial Sequence

```
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 167
                                                                 24
agctctcaga ggctggtcat aggg
<210> 168
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 168
                                                                 50
gteggeeett teecaggaet gaacatgaag agttatgeeg getteeteac
<210> 169
<211> 2477
<212> DNA
<213> Homo sapiens
<400> 169
cgagggcttt tccggctccg gaatggcaca tgtgggaatc ccagtcttgt tggctacaac 60
atttttccct ttcctaacaa qttctaacag ctgttctaac agctagtgat caggggttct 120
tettqetqqa qaaqaaaqqq etqaqqqeaq aqeaqqqeac tetcaetcag ggtgaccage 180
teettqeete tetqtqqata acagagcatg agaaagtgaa gagatgcage ggagtgaggt 240
gatggaagtc taaaatagga aggaattttg tgtgcaatat cagactctgg gagcagttga 300
cctggagagc ctgggggagg gcctgcctaa caagctttca aaaaacagga gcgacttcca 360
ctqqqctqqq ataaqacqtq ccqqtaqqat aqqqaaqact qqqtttaqtc ctaatatcaa 420
attgactqqc tqqqtgaact tcaacagcct tttaacctct ctgggagatg aaaacgatgg 480
tatagcataa aggctagaga ccaaaataga taacaggatt ccctgaacat tcctaagagg 600
gagaaagtat gttaaaaata gaaaaaccaa aatgcagaag gaggagactc acagagctaa 660
accaqqatqq qqaccctqqq tcaqqccaqc ctctttqctc ctcccqqaaa ttatttttqq 720
tetgaecaet etgeettgtg ttttgeagaa teatgtgagg gecaaceggg gaaggtggag 780
cagatgagca cacacaggag ccgtctcctc accgccgccc ctctcagcat ggaacagagg 840
cagecetgge eeegggeeet ggaggtggae ageegetetg tggteetget etcagtggte 900
tgggtgctgc tggccccccc agcagccggc atgcctcagt tcagcacctt ccactctgag 960
aatcgtgact ggaccttcaa ccacttgacc gtccaccaag ggacgggggc cgtctatgtg 1020
ggggccatca accgggtcta taagctgaca ggcaacctga ccatccaggt ggctcataag 1080
acagggccag aagaggacaa caagtctcgt tacccgcccc tcatcgtgca gccctgcagc 1140
gaagtgetea eecteaceaa caatgteaac aagetgetea teattgaeta etetgagaac 1200
cqcctqctqq cctqtqqqaq cctctaccaq qqqqtctqca aqctqctqcq qctqqatqac 1260
ctcttcatcc tggtggagcc atcccacaag aaggagcact acctgtccag tgtcaacaag 1320
acgggcacca tgtacggggt gattgtgcgc tctgagggtg aggatggcaa gctcttcatc 1380
ggcacggctg tggatgggaa gcaggattac ttcccgaccc tgtccagccg gaagctgccc 1440
cgagaccetg agtectcage catgetegae tatgagetae acagegattt tgteteetet 1500
ctcatcaaga tcccttcaga caccctggcc ctggtctccc actttgacat cttctacatc 1560
tacggetttg ctagtggggg etttgtetae ttteteactg tecageeega gaeeectgag 1620
ggtgtggcca tcaactccgc tggagacctc ttctacacct cacgcatcgt gcggctctgc 1680
```

```
gtggaatacc gcctcctgca ggctgcttac ctggccaagc ctggggactc actggcccag 1800
gccttcaata tcaccagcca ggacgatgta ctctttgcca tcttctccaa agggcagaag 1860
cagtatcacc accegecega tgactetgee etgtgtgeet teeetateeg ggeeateaac 1920
ttgcagatca aggagcgcct gcagtcctgc taccagggcg agggcaacct ggagctcaac 1980
tggctgctgg ggaaggacgt ccagtgcacg aaggcgcctg tccccatcga tgataacttc 2040
tqtqqactqq acatcaacca gcccctggqa ggctcaactc cagtggaggg cctgaccctg 2100
tacaccacca gcagggaccg catgacctct gtggcctcct acgtttacaa cggctacagc 2160
gtggtttttg tggggactaa gagtggcaag ctgaaaaagg taagagtcta tgagttcaga 2220
tgctccaatg ccattcacct cctcagcaaa gagtccctct tggaaggtag ctattggtgg 2280
agatttaact ataggcaact ttattttctt ggggaacaaa ggtgaaatgg ggaggtaaga 2340
aggggttaat tttgtgactt agcttctagc tacttcctcc agccatcagt cattgggtat 2400
gtaaggaatg caagcgtatt tcaatatttc ccaaacttta agaaaaact ttaagaaggt 2460
acatctgcaa aagcaaa
<210> 170
<211> 552
<212> PRT
<213> Homo sapiens
<400> 170
Met Gly Thr Leu Gly Gln Ala Ser Leu Phe Ala Pro Pro Gly Asn Tyr
                 5
Phe Trp Ser Asp His Ser Ala Leu Cys Phe Ala Glu Ser Cys Glu Gly
            20
Gln Pro Gly Lys Val Glu Gln Met Ser Thr His Arg Ser Arg Leu Leu
Thr Ala Ala Pro Leu Ser Met Glu Gln Arg Gln Pro Trp Pro Arg Ala
     50
                        55
Leu Glu Val Asp Ser Arg Ser Val Val Leu Leu Ser Val Val Trp Val
Leu Leu Ala Pro Pro Ala Ala Gly Met Pro Gln Phe Ser Thr Phe His
Ser Glu Asn Arg Asp Trp Thr Phe Asn His Leu Thr Val His Gln Gly
           100
                               105
                                                  110
Thr Gly Ala Val Tyr Val Gly Ala Ile Asn Arg Val Tyr Lys Leu Thr
                           120
Gly Asn Leu Thr Ile Gln Val Ala His Lys Thr Gly Pro Glu Glu Asp
    130
                       135
Asn Lys Ser Arg Tyr Pro Pro Leu Ile Val Gln Pro Cys Ser Glu Val
145
                   150
                                       155
                                                          160
Leu Thr Leu Thr Asn Asn Val Asn Lys Leu Leu Ile Ile Asp Tyr Ser
               165
                                   170
                                                       175
```

Glu Asn Arg Leu Leu Ala Cys Gly Ser Leu Tyr Gln Gly Val Cys Lys 180 185 190

Leu Leu Arg Leu Asp Asp Leu Phe Ile Leu Val Glu Pro Ser His Lys
195 200 205

Lys Glu His Tyr Leu Ser Ser Val Asn Lys Thr Gly Thr Met Tyr Gly
210 215 220

Val Ile Val Arg Ser Glu Gly Glu Asp Gly Lys Leu Phe Ile Gly Thr 225 230 235 240

Ala Val Asp Gly Lys Gln Asp Tyr Phe Pro Thr Leu Ser Ser Arg Lys 245 250 255

Leu Pro Arg Asp Pro Glu Ser Ser Ala Met Leu Asp Tyr Glu Leu His
260 265 270

Ser Asp Phe Val Ser Ser Leu Ile Lys Ile Pro Ser Asp Thr Leu Ala 275 280 285

Leu Val Ser His Phe Asp Ile Phe Tyr Ile Tyr Gly Phe Ala Ser Gly 290 295 300

Gly Phe Val Tyr Phe Leu Thr Val Gln Pro Glu Thr Pro Glu Gly Val 305 310 315 320

Ala Ile Asn Ser Ala Gly Asp Leu Phe Tyr Thr Ser Arg Ile Val Arg 325 330 335

Leu Cys Lys Asp Asp Pro Lys Phe His Ser Tyr Val Ser Leu Pro Phe 340 345 350

Gly Cys Thr Arg Ala Gly Val Glu Tyr Arg Leu Leu Gln Ala Ala Tyr 355 360 365

Leu Ala Lys Pro Gly Asp Ser Leu Ala Gln Ala Phe Asn Ile Thr Ser 370 375 380

Gln Asp Asp Val Leu Phe Ala Ile Phe Ser Lys Gly Gln Lys Gln Tyr 385 390 395 400

His His Pro Pro Asp Asp Ser Ala Leu Cys Ala Phe Pro Ile Arg Ala 405 410 415

Ile Asn Leu Gln Ile Lys Glu Arg Leu Gln Ser Cys Tyr Gln Gly Glu 420 425 430

Gly Asn Leu Glu Leu Asn Trp Leu Leu Gly Lys Asp Val Gln Cys Thr 435 440 445

Lys Ala Pro Val Pro Ile Asp Asp Asn Phe Cys Gly Leu Asp Ile Asn

4	150				455					460					
Gln F 465	?ro Leu	Gly	Gly	Ser 470	Thr	Pro	Val	Glu	Gly 475	Leu	Thr	Leu	Tyr	Thr 480	
Thr S	Ser Arg	Asp	Arg 485	Met	Thr	Ser	Val	Ala 490	Ser	Tyr	Val	Tyr	Asn 495	Gly	
Tyr S	Ser Val	Val 500	Phe	Val	Gly	Thr	Lys 505	Ser	Gly	Lys	Leu	Lys 510	Lys	Val	
Arg V	Jal Tyr 515		Phe	Arg	Cys	Ser 520	Asn	Ala	Ile	His	Leu 525	Leu	Ser	Lys	
	Ser Leu 530	Leu	Glu	Gly	Ser 535	Tyr	Trp	Trp	Arg	Phe 540	Asn	Tyr	Arg	Gln	
Leu 1 545	Tyr Phe	Leu	Gly	Glu 550	Gln	Arg									
<213> <220> <223> <400> tggaa <210> <211> <212> <213> <400>	> 20 > DNA > Artif > Descr oligo > 171 ataccg > 172 > 24 > DNA > Artif > Descr oligo > 172	iptionuclo	on oneotic	f Ari	cific robe ce cific										20
<210>	ngeeet > 173	ttgg	agaa	ga t	ggc										24
	> 43 > DNA > Artif	icia	l Se	quen	ce										
<220> <223>	> > Descr oligo					cial	Seq	uence	e: S	ynthe	etic				

```
<400> 173
                                                                  42
ggactcactg gcccaggcct tcaatatcac cagccaggac gat
<210> 174
<211> 3106
<212> DNA
<213> Homo sapiens
<220>
<221> modified base
<222> (1683)
<223> a, t, c or g
<400> 174
aggetecege gegeggetga gtgeggaetg gagtgggaae cegggteeee gegettagag 60
aacacgcgat gaccacgtgg agcctccggc ggaggccggc ccgcacgctg ggactcctgc 120
tgctggtcgt cttgggcttc ctggtgctcc gcaggctgga ctggagcacc ctggtccctc 180
tgcggctccg ccatcgacag ctggggctgc aggccaaggg ctggaacttc atgctggagg 240
attccacctt ctggatcttc gggggctcca tccactattt ccgtgtgccc agggagtact 300
ggagggaccg cctgctgaag atgaaggcct gtggcttgaa caccctcacc acctatgttc 360
cgtggaacct gcatgagcca gaaagaggca aatttgactt ctctgggaac ctggacctgg 420
aggeettegt cetgatggee geagagateg ggetgtgggt gattetgegt ceaggeecet 480
acatetgeag tgagatggae eteggggget tgeecagetg getaeteeaa gaecetggea 540
tgaggctgag gacaacttac aagggcttca ccgaagcagt ggacctttat tttgaccacc 600
tgatgtccag ggtggtgcca ctccagtaca agcgtggggg acctatcatt gccgtgcagg 660
tggagaatga atatggttcc tataataaag accccgcata catgccctac gtcaagaagg 720
cactggagga ccgtggcatt gtggaactgc tcctgacttc agacaacaag gatgggctga 780
gcaaggggat tgtccaggga gtcttggcca ccatcaactt gcagtcaaca cacgagctgc 840
agctactgac cacctttctc ttcaacgtcc aggggactca gcccaagatg gtgatggagt 900
actggacggg gtggtttgac tcgtggggag gccctcacaa tatcttggat tcttctgagg 960
ttttgaaaac cgtgtctgcc attgtggacg ccggctcctc catcaacctc tacatgttcc 1020
acggaggcac caactttggc ttcatgaatg gagccatgca cttccatgac tacaagtcag 1080
atgtcaccag ctatgactat gatgctgtgc tgacagaagc cggcgattac acggccaagt 1140
acatgaagct tcgagacttc ttcggctcca tctcaggcat ccctctccct cccccacctg 1200
accttcttcc caagatgccg tatgagccct taacgccagt cttgtacctg tctctgtggg 1260
acqueetcaa qtacctqqqq qaqecaatca agtetgaaaa gcccatcaac atggagaacc 1320
tgccagtcaa tgggggaaat ggacagtcct tcgggtacat tctctatgag accagcatca 1380
cctcgtctgg catcctcagt ggccacgtgc atgatcgggg gcaggtgttt gtgaacacag 1440
tatccatagg attcttggac tacaagacaa cgaagattgc tgtccccctg atccagggtt 1500
acaccgtgct gaggatcttg gtggagaatc gtgggcgagt caactatggg gagaatattg 1560
atgaccagcg caaaggctta attggaaatc tctatctgaa tgattcaccc ctgaaaaact 1620
tcagaatcta tagcctggat atgaagaaga gcttctttca gaggttcggc ctggacaaat 1680
ggngttccct cccagaaaca cccacattac ctgctttctt cttgggtagc ttgtccatca 1740
gctccacgcc ttgtgacacc tttctgaagc tggagggctg ggagaagggg gttgtattca 1800
tcaatggcca gaaccttgga cgttactgga acattggacc ccagaagacg ctttacctcc 1860
caggtccctg gttgagcagc ggaatcaacc aggtcatcgt ttttgaggag acgatggcgg 1920
gccctgcatt acagttcacg gaaacccccc acctgggcag gaaccagtac attaagtgag 1980
eggtggcace ecetectget ggtgccagtg ggagactgec geeteetett gaeetgaage 2040
etggtggetg etgeeceace ceteactgea aaageatete ettaagtage aaceteaggg 2100
actgggggct acagtetgce cetgteteag etcaaaacce taageetgca gggaaaggtg 2160
ggatggetet gggeetgget ttgttgatga tggettteet acageeetge tettgtgeeg 2220
```

aggetgtegg getgteteta gggtgggage agetaateag ategeecage etttggeeet 2280

```
cagaaaaagt gctgaaacgt gcccttgcac cggacgtcac agccctgcga gcatctgctg 2340
gactcaggcg tgctctttgc tggttcctgg gaggcttggc cacatccctc atggccccat 2400
tttatccccq aaatcctqqq tqtqtcacca qtqtaqaqqq tqgggaaggg gtqtctcacc 2460
tqaqctqact ttqttcttcc ttcacaacct tctqaqcctt ctttqqqatt ctqqaaggaa 2520
ctcggcgtga gaaacatgtg acttcccctt tcccttccca ctcgctgctt cccacagggt 2580
gacaggetgg getggagaaa cagaaateet caceetgegt etteccaagt tageaggtgt 2640
etetqqtqtt caqtqaqqaq qacatqtqaq teetqqcaqa aqeeatqqee catgtetgca 2700
catccaggga ggaggacaga aggcccagct cacatgtgag tcctggcaga agccatggcc 2760
catgtctgca catccaggga ggaggacaga aggcccagct cacatgtgag tcctggcaga 2820
agccatggcc catgtctgca catccaggga ggaggacaga aggcccagct cacatgtgag 2880
tcctggcaga agccatggcc catgtctgca catccaggga ggaggacaga aggcccagct 2940
cagtggcccc cgctccccac ccccacgcc cgaacagcag gggcagagca gccctccttc 3000
gaagtgtgtc caagtccgca tttgagcctt gttctggggc ccagcccaac acctggcttg 3060
ggctcactgt cctgagttgc agtaaagcta taaccttgaa tcacaa
<210> 175
<211> 636
<212> PRT
<213> Homo sapiens
<220>
<221> MOD RES
<222> (539)
<223> Any amino acid
<400> 175
Met Thr Trp Ser Leu Arg Arg Pro Ala Arg Thr Leu Gly Leu
                  5
                                     10
                                                         15
Leu Leu Val Val Leu Gly Phe Leu Val Leu Arg Arg Leu Asp Trp
Ser Thr Leu Val Pro Leu Arg Leu Arg His Arg Gln Leu Gly Leu Gln
Ala Lys Gly Trp Asn Phe Met Leu Glu Asp Ser Thr Phe Trp Ile Phe
Gly Gly Ser Ile His Tyr Phe Arg Val Pro Arg Glu Tyr Trp Arg Asp
                     70
Arg Leu Leu Lys Met Lys Ala Cys Gly Leu Asn Thr Leu Thr Thr Tyr
                 85
Val Pro Trp Asn Leu His Glu Pro Glu Arg Gly Lys Phe Asp Phe Ser
                                105
Gly Asn Leu Asp Leu Glu Ala Phe Val Leu Met Ala Ala Glu Ile Gly
Leu Trp Val Ile Leu Arg Pro Gly Pro Tyr Ile Cys Ser Glu Met Asp
    130
                        135
                                            140
```

Leu Gly Gly Leu Pro Ser Trp Leu Leu Gln Asp Pro Gly Met Arg Leu 145 150 155 160 Arg Thr Thr Tyr Lys Gly Phe Thr Glu Ala Val Asp Leu Tyr Phe Asp 170 His Leu Met Ser Arg Val Val Pro Leu Gln Tyr Lys Arg Gly Gly Pro 185 Ile Ile Ala Val Gln Val Glu Asn Glu Tyr Gly Ser Tyr Asn Lys Asp 195 Pro Ala Tyr Met Pro Tyr Val Lys Lys Ala Leu Glu Asp Arg Gly Ile 215 Val Glu Leu Leu Thr Ser Asp Asn Lys Asp Gly Leu Ser Lys Gly 235 Ile Val Gln Gly Val Leu Ala Thr Ile Asn Leu Gln Ser Thr His Glu Leu Gln Leu Leu Thr Thr Phe Leu Phe Asn Val Gln Gly Thr Gln Pro 265 Lys Met Val Met Glu Tyr Trp Thr Gly Trp Phe Asp Ser Trp Gly Gly 275 Pro His Asn Ile Leu Asp Ser Ser Glu Val Leu Lys Thr Val Ser Ala 295 Ile Val Asp Ala Gly Ser Ser Ile Asn Leu Tyr Met Phe His Gly Gly 305 310 315 320 Thr Asn Phe Gly Phe Met Asn Gly Ala Met His Phe His Asp Tyr Lys Ser Asp Val Thr Ser Tyr Asp Tyr Asp Ala Val Leu Thr Glu Ala Gly 345 Asp Tyr Thr Ala Lys Tyr Met Lys Leu Arg Asp Phe Phe Gly Ser Ile 355 Ser Gly Ile Pro Leu Pro Pro Pro Pro Asp Leu Leu Pro Lys Met Pro 375 Tyr Glu Pro Leu Thr Pro Val Leu Tyr Leu Ser Leu Trp Asp Ala Leu 385 390 Lys Tyr Leu Gly Glu Pro Ile Lys Ser Glu Lys Pro Ile Asn Met Glu 405 410 Asn Leu Pro Val Asn Gly Gly Asn Gly Gln Ser Phe Gly Tyr Ile Leu 425

<400> 176

Tyr Glu Thr Ser Ile Thr Ser Ser Gly Ile Leu Ser Gly His Val His Asp Arg Gly Gln Val Phe Val Asn Thr Val Ser Ile Gly Phe Leu Asp 455 Tyr Lys Thr Thr Lys Ile Ala Val Pro Leu Ile Gln Gly Tyr Thr Val 465 470 Leu Arg Ile Leu Val Glu Asn Arg Gly Arg Val Asn Tyr Gly Glu Asn Ile Asp Asp Gln Arg Lys Gly Leu Ile Gly Asn Leu Tyr Leu Asn Asp 500 505 510 Ser Pro Leu Lys Asn Phe Arg Ile Tyr Ser Leu Asp Met Lys Lys Ser 515 Phe Phe Gln Arg Phe Gly Leu Asp Lys Trp Xaa Ser Leu Pro Glu Thr 535 Pro Thr Leu Pro Ala Phe Phe Leu Gly Ser Leu Ser Ile Ser Ser Thr 550 545 Pro Cys Asp Thr Phe Leu Lys Leu Glu Gly Trp Glu Lys Gly Val Val 565 570 Phe Ile Asn Gly Gln Asn Leu Gly Arg Tyr Trp Asn Ile Gly Pro Gln 580 590 585 Lys Thr Leu Tyr Leu Pro Gly Pro Trp Leu Ser Ser Gly Ile Asn Gln 600 Val Ile Val Phe Glu Glu Thr Met Ala Gly Pro Ala Leu Gln Phe Thr 615 Glu Thr Pro His Leu Gly Arg Asn Gln Tyr Ile Lys 625 630 <210> 176 <211> 2505 <212> DNA <213> Homo sapiens

ggggacgegg agetgagagg eteeggeta getaggtgta ggggtggaeg ggteecagga 60 eeetggtgag ggtteetae ttggeetteg gtgggggtea agaegeagge acetaegeea 120 aaggggagea aageeggget eggeeegagg eeeecaggae eteeatee eaatgttgga 180 ggaateegae acgtgaeggt etgteegeeg teteagaeta gaggageget gtaaaegeea 240 tggeteecaa gaagetgtee tggeettegt eeetgetget geegeteage etgaegetae 300 tgetgeeca ggeagaeaet eggtegtteg tagtggatag gggteatgae eggttetee 360 tagaegggge eeegtteege tatgtgetg geageetgea etaetttegg gtaeegeggg 420

```
tgctttgggc cgaccggctt ttgaagatgc gatggagcgg cctcaacgcc atacagtttt 480
atgtgccctg gaactaccac gagccacagc ctggggtcta taactttaat ggcagccggg 540
accteattge etttetgaat gaggeagete tagegaacet gttggteata etgagaecag 600
gaccttacat ctgtgcagag tgggagatgg ggggtctccc atcctggttg cttcgaaaac 660
ctgaaattca tctaagaacc tcagatccag acttccttgc cgcagtggac tcctggttca 720
aggtettget geccaagata tatecatgge tttateacaa tgggggeaac ateattagea 780
ttcaggtgga gaatgaatat ggtagctaca gagcctgtga cttcagctac atgaggcact 840
tggctgggct cttccgtgca ctgctaggag aaaagatctt gctcttcacc acagatgggc 900
ctgaaggact caagtgtggc tccctccggg gactctatac cactgtagat tttggcccag 960
ctgacaacat gaccaaaatc tttaccctgc ttcggaagta tgaaccccat gggccattgg 1020
taaactetga gtaetacaca ggetggetgg attactgggg ccagaateac tecacacggt 1080
ctgtgtcagc tgtaaccaaa ggactagaga acatgctcaa gttgggagcc agtgtgaaca 1140
tqtacatqtt ccatqqaqqt accaactttq qatattqqaa tqqtqccqat aaqaaqqqac 1200
qcttccttcc qattactacc aqctatqact atqatqcacc tatatctqaa qcaqqqqacc 1260
ccacacctaa gctttttgct cttcgagatg tcatcagcaa gttccaggaa gttcctttgg 1320
gacctttacc tececegage eccaagatga tgettggace tgtgactetg cacetggttg 1380
ggcatttact ggctttccta gacttgcttt gcccccgtgg gcccattcat tcaatcttgc 1440
caatgacett tgaggetgte aageaggace atggetteat gttgtacega acetatatga 1500
cccataccat ttttgagcca acaccattct gggtgccaaa taatggagtc catgaccgtg 1560
cctatgtgat ggtggatggg gtgttccagg gtgttgtgga gcgaaatatg agagacaaac 1620
tatttttgac ggggaaactg gggtccaaac tggatatctt ggtggagaac atggggaggc 1680
tcagctttgg gtctaacagc agtgacttca agggcctgtt gaagccacca attctggggc 1740
aaacaateet taeecagtgg atgatgttee etetgaaaat tgataacett gtgaagtggt 1800
ggttteecet ecagttgeca aaatggecat atceteaage teettetgge eceacattet 1860
actecaaaac atttecaatt ttaggeteag ttggggacac atttetatat etacetggat 1920
ggaccaaggg ccaagtctgg atcaatgggt ttaacttggg ccggtactgg acaaagcagg 1980
ggccacaaca gaccctctac gtgccaagat tcctgctgtt tcctagggga gccctcaaca 2040
aaattacatt gctggaacta gaagatgtac ctctccagcc ccaagtccaa tttttggata 2100
agcetateet caatageact agtaetttge acaggacaca tateaattee ettteagetg 2160
atacactgag tgcctctgaa ccaatggagt taagtgggca ctgaaaggta ggccgggcat 2220
ggtggctcat gcctgtaatc ccagcacttt gggaggctga gacgggtgga ttacctgagg 2280
tcaggacttc aagaccagcc tggccaacat ggtgaaaccc cgtctccact aaaaatacaa 2340
aaattageeg ggegtgatgg tgggcaeete taateecage taettgggag getgagggea 2400
ggagaattgc ttgaatccag gaggcagagg ttgcagtgag tggaggttgt accactgcac 2460
tccagcctgg ctgacagtga gacactccat ctcaaaaaaa aaaaa
                                                                  2505
<210> 177
<211> 654
<212> PRT
<213> Homo sapiens
```

<400> 177

Met Ala Pro Lys Lys Leu Ser Cys Leu Arg Ser Leu Leu Pro Leu

Ser Leu Thr Leu Leu Pro Gln Ala Asp Thr Arg Ser Phe Val Val 20 25

Asp Arg Gly His Asp Arg Phe Leu Leu Asp Gly Ala Pro Phe Arg Tyr

Val Ser Gly Ser Leu His Tyr Phe Arg Val Pro Arg Val Leu Trp Ala 55

- Asp Arg Leu Leu Lys Met Arg Trp Ser Gly Leu Asn Ala Ile Gln Phe 65 70 75 80
- Tyr Val Pro Trp Asn Tyr His Glu Pro Gln Pro Gly Val Tyr Asn Phe
  85 90 95
- Asn Gly Ser Arg Asp Leu Ile Ala Phe Leu Asn Glu Ala Ala Leu Ala
  100 105 110
- Asn Leu Leu Val Ile Leu Arg Pro Gly Pro Tyr Ile Cys Ala Glu Trp 115 120 125
- Glu Met Gly Gly Leu Pro Ser Trp Leu Leu Arg Lys Pro Glu Ile His 130 135 140
- Leu Arg Thr Ser Asp Pro Asp Phe Leu Ala Ala Val Asp Ser Trp Phe 145 150 155 160
- Lys Val Leu Leu Pro Lys Ile Tyr Pro Trp Leu Tyr His Asn Gly Gly
  165 170 175
- Asn Ile Ile Ser Ile Gln Val Glu Asn Glu Tyr Gly Ser Tyr Arg Ala 180 185 190
- Cys Asp Phe Ser Tyr Met Arg His Leu Ala Gly Leu Phe Arg Ala Leu 195 200 205
- Leu Gly Glu Lys Ile Leu Leu Phe Thr Thr Asp Gly Pro Glu Gly Leu 210 215 220
- Lys Cys Gly Ser Leu Arg Gly Leu Tyr Thr Thr Val Asp Phe Gly Pro 225 230 235 240
- Ala Asp Asn Met Thr Lys Ile Phe Thr Leu Leu Arg Lys Tyr Glu Pro 245 250 255
- His Gly Pro Leu Val Asn Ser Glu Tyr Tyr Thr Gly Trp Leu Asp Tyr 260 265 270
- Trp Gly Gln Asn His Ser Thr Arg Ser Val Ser Ala Val Thr Lys Gly 275 280 285
- Leu Glu Asn Met Leu Lys Leu Gly Ala Ser Val Asn Met Tyr Met Phe 290 295 300
- His Gly Gly Thr Asn Phe Gly Tyr Trp Asn Gly Ala Asp Lys Lys Gly 305 310 315 320
- Arg Phe Leu Pro Ile Thr Thr Ser Tyr Asp Tyr Asp Ala Pro Ile Ser 325 330 335
- Glu Ala Gly Asp Pro Thr Pro Lys Leu Phe Ala Leu Arg Asp Val Ile

			340					345					350		
Ser	Lys	Phe 355	Gln	Glu	Val	Pro	Leu 360	Gly	Pro	Leu	Pro	Pro 365	Pro	Ser	Pro
Lys	Met 370	Met	Leu	Gly	Pro	Val 375	Thr	Leu	His	Leu	Val 380	Gly	His	Leu	Leu
Ala 385	Phe	Leu	Asp	Leu	Leu 390	Cys	Pro	Arg	Gly	Pro 395	Ile	His	Ser	Ile	Leu 400
Pro	Met	Thr	Phe	Glu 405	Ala	Val	Lys	Gln	Asp 410	His	Gly	Phe	Met	Leu 415	Tyr
Arg	Thr	Tyr	Met 420	Thr	His	Thr	Ile	Phe 425	Glu	Pro	Thr	Pro	Phe 430	Trp	Val
Pro	Asn	Asn 435	Gly	Val	His	Asp	Arg 440	Ala	Tyr	Val	Met	Val 445	Asp	Gly	Val
Phe	Gln 450	Gly	Val	Val	Glu	Arg 455	Asn	Met	Arg	Asp	Lys 460	Leu	Phe	Leu	Thr
Gly 465	Lys	Leu	Gly	Ser	Lys 470	Leu	Asp	Ile	Leu	Val 475	Glu	Asn	Met	Gly	Arg 480
Leu	Ser	Phe	Gly	Ser 485	Asn	Ser	Ser	Asp	Phe 490	Lys	Gly	Leu	Leu	Lys 495	Pro
Pro	Ile	Leu	Gly 500	Gln	Thr	Ile	Leu	Thr 505	Gln	Trp	Met	Met	Phe 510	Pro	Leu
Lys	Ile	Asp 515	Asn	Leu	Val	Lys	Trp 520	Trp	Phe	Pro	Leu	Gln 525	Leu	Pro	Lys
Trp	Pro 530	Tyr	Pro	Gln	Ala	Pro 535	Ser	Gly	Pro	Thr	Phe 540	Tyr	Ser	Lys	Thr
Phe 545	Pro	Ile	Leu	Gly	Ser 550	Val	Gly	Asp	Thr	Phe 555	Leu	Tyr	Leu	Pro	Gly 560
Trp	Thr	Lys	Gly	Gln 565	Val	Trp	Ile	Asn	Gly 570	Phe	Asn	Leu	Gly	Arg 575	Tyr
Trp	Thr	Lys	Gln 580	Gly	Pro	Gln	Gln	Thr 585	Leu	Tyr	Val	Pro	Arg 590	Phe	Leu
Leu	Phe	Pro 595	Arg	Gly	Ala	Leu	Asn 600	Lys	Ile	Thr	Leu	Leu 605	Glu	Leu	Glu
Asp	Val 610	Pro	Leu	Gln	Pro	Gln 615	Val	Gln	Phe	Leu	Asp	Lys	Pro	Ile	Leu

Asn Ser Thr Ser Thr Leu His Arg Thr His Ile Asn Ser Leu Ser Ala 625 630 635 640	
Asp Thr Leu Ser Ala Ser Glu Pro Met Glu Leu Ser Gly His 645 650	
<210> 178 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 178 tggctactcc aagaccctgg catg	24
<210> 179 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 179 tggacaaatc cccttgctca gccc	24
<210> 180 <211> 50 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 180 gggcttcacc gaagcagtgg acctttattt tgaccacctg atgtccaggg	50
<210> 181 <211> 22 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 181 ccagctatga ctatgatgca cc	22

```
<210> 182
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 182
                                                                  24
tggcacccag aatggtgttg gctc
<210> 183
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 183
                                                                  50
cgagatgtca tcagcaagtt ccaggaagtt cctttgggac ctttacctcc
<210> 184
<211> 1947
<212> DNA
<213> Homo sapiens
<400> 184
gctttgaaca cgtctgcaag cccaaagttg agcatctgat tggttatgag gtatttgagt 60
gcacccacaa tatggcttac atgttgaaaa agcttctcat cagttacata tccattattt 120
gtgtttatgg ctttatctgc ctctacactc tcttctggtt attcaggata cctttgaagg 180
aatattettt egaaaaagte agagaagaga geagttttag tgacatteea gatgteaaaa 240
acgattttgc gttccttctt cacatggtag accagtatga ccagctatat tccaagcgtt 300
ttggtgtgtt cttgtcagaa gttagtgaaa ataaacttag ggaaattagt ttgaaccatg 360
aqtqqacatt tqaaaaactc aggcaqcaca tttcacgcaa cgcccaggac aagcaggagt 420
tgcatctgtt catgctgtcg ggggtgcccg atgctgtctt tgacctcaca gacctggatg 480
tgctaaaqct tgaactaatt ccagaagcta aaattcctgc taagatttct caaatgacta 540
acctecaaga getecacete tgccactgcc etgcaaaagt tgaacagact gettttaget 600
ttcttcgcga tcacttgaga tgccttcacg tgaagttcac tgatgtggct gaaattcctg 660
cctqqqtqta tttqctcaaa aaccttcqaq aqttqtactt aataggcaat ttgaactctg 720
aaaacaataa gatgatagga cttgaatctc tccgagagtt gcggcacctt aagattctcc 780
acqtqaaqaq caatttqacc aaaqttccct ccaacattac agatgtggct ccacatctta 840
caaagttaqt cattcataat gacggcacta aactcttggt actgaacagc cttaagaaaa 900
tgatgaatgt cqctqagctg gaactccaga actgtgagct agagagaatc ccacatgcta 960
ttttcagcct ctctaattta caggaactgg atttaaagtc caataacatt cgcacaattg 1020
aggaaatcat cagtttccag catttaaaac gactgacttg tttaaaatta tggcataaca 1080
aaattgttac tattcctccc tctattaccc atgtcaaaaa cttggagtca ctttatttct 1140
ctaacaacaa qctcqaatcc ttaccagtgg cagtatttag tttacagaaa ctcagatgct 1200
tagatgtgag ctacaacaac atttcaatga ttccaataga aataggattg cttcagaacc 1260
tgcagcattt gcatatcact gggaacaaag tggacattct gccaaaacaa ttgtttaaat 1320
```

```
gcataaagtt gaggactttg aatctgggac agaactgcat cacctcactc ccagagaaag 1380
ttggtcagct ctcccagctc actcagctgg agctgaaggg gaactgcttg gaccgcctgc 1440
cagcccagct gggccagtgt cggatgctca agaaaagcgg gcttgttgtg gaagatcacc 1500
tttttgatac cctgccactc gaagtcaaag aggcattgaa tcaagacata aatattccct 1560
ttgcaaatgg gatttaaact aagataatat atgcacagtg atgtgcagga acaacttcct 1620
agattgcaag tgctcacgta caagttatta caagataatg cattttagga gtagatacat 1680
cttttaaaat aaaacagaga ggatgcatag aaggctgata gaagacataa ctgaatgttc 1740
aatgtttgta gggttttaag tcattcattt ccaaatcatt ttttttttc ttttggggaa 1800
agggaaggaa aaattataat cactaatctt ggttcttttt aaattgtttg taacttggat 1860
gctgccgcta ctgaatgttt acaaattgct tgcctgctaa agtaaatgat taaattgaca 1920
ttttcttact aaaaaaaaaa aaaaaaa
<210> 185
<211> 501
<212> PRT
<213> Homo sapiens
<400> 185
Met Ala Tyr Met Leu Lys Lys Leu Leu Ile Ser Tyr Ile Ser Ile Ile
Cys Val Tyr Gly Phe Ile Cys Leu Tyr Thr Leu Phe Trp Leu Phe Arg
                                  25
Ile Pro Leu Lys Glu Tyr Ser Phe Glu Lys Val Arg Glu Glu Ser Ser
         35
                              40
Phe Ser Asp Ile Pro Asp Val Lys Asn Asp Phe Ala Phe Leu Leu His
Met Val Asp Gln Tyr Asp Gln Leu Tyr Ser Lys Arg Phe Gly Val Phe
 65
                      70
Leu Ser Glu Val Ser Glu Asn Lys Leu Arg Glu Ile Ser Leu Asn His
Glu Trp Thr Phe Glu Lys Leu Arg Gln His Ile Ser Arg Asn Ala Gln
                                                     110
                                 105
Asp Lys Gln Glu Leu His Leu Phe Met Leu Ser Gly Val Pro Asp Ala
                             120
        115
Val Phe Asp Leu Thr Asp Leu Asp Val Leu Lys Leu Glu Leu Ile Pro
                        135
Glu Ala Lys Ile Pro Ala Lys Ile Ser Gln Met Thr Asn Leu Gln Glu
                                                             160
                                         155
145
                     150
Leu His Leu Cys His Cys Pro Ala Lys Val Glu Gln Thr Ala Phe Ser
Phe Leu Arg Asp His Leu Arg Cys Leu His Val Lys Phe Thr Asp Val
                                                     190
             180
                                 185
```

- Ala Glu Ile Pro Ala Trp Val Tyr Leu Leu Lys Asn Leu Arg Glu Leu 195 200 205
- Tyr Leu Ile Gly Asn Leu Asn Ser Glu Asn Asn Lys Met Ile Gly Leu 210 215 220
- Glu Ser Leu Arg Glu Leu Arg His Leu Lys Ile Leu His Val Lys Ser 225 230 235 240
- Asn Leu Thr Lys Val Pro Ser Asn Ile Thr Asp Val Ala Pro His Leu 245 250 255
- Thr Lys Leu Val Ile His Asn Asp Gly Thr Lys Leu Leu Val Leu Asn 260 265 270
- Ser Leu Lys Lys Met Met Asn Val Ala Glu Leu Glu Leu Gln Asn Cys 275 280 285
- Glu Leu Glu Arg Ile Pro His Ala Ile Phe Ser Leu Ser Asn Leu Gln 290 295 300
- Glu Leu Asp Leu Lys Ser Asn Asn Ile Arg Thr Ile Glu Glu Ile Ile 305 310 315 320
- Ser Phe Gln His Leu Lys Arg Leu Thr Cys Leu Lys Leu Trp His Asn 325 330 335
- Lys Ile Val Thr Ile Pro Pro Ser Ile Thr His Val Lys Asn Leu Glu 340 345 350
- Ser Leu Tyr Phe Ser Asn Asn Lys Leu Glu Ser Leu Pro Val Ala Val 355 360 365
- Phe Ser Leu Gln Lys Leu Arg Cys Leu Asp Val Ser Tyr Asn Asn Ile 370 375 380
- Ser Met Ile Pro Ile Glu Ile Gly Leu Leu Gln Asn Leu Gln His Leu 385 390 395 400
- His Ile Thr Gly Asn Lys Val Asp Ile Leu Pro Lys Gln Leu Phe Lys 405 410 415
- Cys Ile Lys Leu Arg Thr Leu Asn Leu Gly Gln Asn Cys Ile Thr Ser 420 425 430
- Leu Pro Glu Lys Val Gly Gln Leu Ser Gln Leu Thr Gln Leu Glu Leu 435 440 445
- Lys Gly Asn Cys Leu Asp Arg Leu Pro Ala Gln Leu Gly Gln Cys Arg 450 455 460
- Met Leu Lys Lys Ser Gly Leu Val Val Glu Asp His Leu Phe Asp Thr

465				470					475					480	
Leu Pr	o Leu	Glu	Val 485	Lys	Glu	Ala	Leu	Asn 490	Gln	Asp	Ile	Asn	Ile 495	Pro	
Phe Al	a Asn	Gly 500	Ile												
<210><211><211><212><213>	21 DNA	icial	l Sec	luen	ce										
<220> <223>	Descr oligo:	_				cial	Seq	uence	e: Sy	ynthe	etic				
<400>		ttac	ccato	jt c											21
<210><211><211><212><213>	24 DNA	icia	l Seq	quen	ce										
<220> <223>	Descr oligo						Seq	uenc	e: S	ynth	etic				
<400> gaccaa		ctct	gggag	gt g	agg										24
<210><211><212><212><213>	47 DNA	icia	l Sed	quen	ce										
<220> <223>	Descr oligo						Seq	uenc	e: S	ynth	etic				
<400> gtcact		ttct	ctaa	ca a	caag	ctcg	a at	cctt	acca	gtg	gcag				47
<210><211><212><212><213>	2917 DNA	sapi	ens												
actttt	gegte ttta	tttc	tttt	tt t	ccat	ctct	g gg	rccag	cttg	gga	tcct	agg	ccgc	aaactg cctggg cccctg	120

```
acattggcat tgcttagtgg ttgtgtgggg agggagacca cgtgggctca gtgcttgctt 240
gcacttatct gcctaggtac atcgaagtct tttgacctcc atacagtgat tatgcctgtc 300
ategetggtg gtateetgge ggeettgete etgetgatag ttgtegtget etgtetttae 360
ttcaaaatac acaacgcgct aaaagctgca aaggaacctg aagctgtggc tgtaaaaaat 420
cacaacccag acaaggtgtg gtgggccaag aacagccagg ccaaaaccat tgccacggag 480
tettgteetg ceetgeagtg etgtgaagga tatagaatgt gtgeeagttt tgatteeetg 540
ccaccttgct gttgcgacat aaatgagggc ctctgagtta ggaaaggctc ccttctcaaa 600
gcagagccct gaagacttca atgatgtcaa tgaggccacc tgtttgtgat gtgcaggcac 660
agaagaaagg cacagctccc catcagtttc atggaaaata actcagtgcc tgctgggaac 720
cagctgctgg agatccctac agagagcttc cactgggggc aacccttcca ggaaggagtt 780
ggggagagag aaccctcact gtggggaatg ctgataaacc agtcacacag ctgctctatt 840
ctcacacaaa tctacccctt gcgtggctgg aactgacgtt tccctggagg tgtccagaaa 900
getgatgtaa cacagageet ataaaagetg teggteetta aggetgeeca gegeettgee 960
aaaatggagc ttgtaagaag gctcatgcca ttgaccctct taattctctc ctgtttggcg 1020
gagctgacaa tggcggaggc tgaaggcaat gcaagctgca cagtcagtct agggggtgcc 1080
aatatggcag agacccacaa agccatgatc ctgcaactca atcccagtga gaactgcacc 1140
tggacaatag aaagaccaga aaacaaaagc atcagaatta tcttttccta tgtccagctt 1200
gatccagatg gaagctgtga aagtgaaaac attaaagtct ttgacggaac ctccagcaat 1260
gggcctctgc tagggcaagt ctgcagtaaa aacgactatg ttcctgtatt tgaatcatca 1320
tccagtacat tgacgtttca aatagttact gactcagcaa gaattcaaag aactgtcttt 1380
gtcttctact acttcttctc tcctaacatc tctattccaa actgtggcgg ttacctggat 1440
accttggaag gatccttcac cagccccaat tacccaaagc cgcatcctga gctggcttat 1500
tgtgtgtggc acatacaagt ggagaaagat tacaagataa aactaaactt caaagagatt 1560
ttcctagaaa tagacaaaca gtgcaaattt gattttcttg ccatctatga tggcccctcc 1620
accaactctg gcctgattgg acaagtctgt ggccgtgtga ctcccacctt cgaatcgtca 1680
tcaaactctc tgactgtcgt gttgtctaca gattatgcca attcttaccg gggattttct 1740
gcttcctaca cctcaattta tgcagaaaac atcaacacta catctttaac ttgctcttct 1800
gacaggatga gagttattat aagcaaatcc tacctagagg cttttaactc taatgggaat 1860
aacttgcaac taaaagaccc aacttgcaga ccaaaattat caaatgttgt ggaattttct 1920
gtccctctta atggatgtgg tacaatcaga aaggtagaag atcagtcaat tacttacacc 1980
aatataatca ccttttctgc atcctcaact tctgaagtga tcacccgtca gaaacaactc 2040
cagattattg tgaagtgtga aatgggacat aattctacag tggagataat atacataaca 2100
gaagatgatg taatacaaag tcaaaatgca ctgggcaaat ataacaccag catggctctt 2160
tttgaatcca attcatttga aaagactata cttgaatcac catattatgt ggatttgaac 2220
caaactcttt ttgttcaagt tagtctgcac acctcagatc caaatttggt ggtgtttctt 2280
gatacctgta gagcctctcc cacctctgac tttgcatctc caacctacga cctaatcaag 2340
agtggatgta gtcgagatga aacttgtaag gtgtatccct tatttggaca ctatgggaga 2400
ttccagttta atgcctttaa attcttgaga agtatgagct ctgtgtatct gcagtgtaaa 2460
gttttgatat gtgatagcag tgaccaccag tctcgctgca atcaaggttg tgtctccaga 2520
agcaaacgag acatttette atataaatgg aaaacagatt ecateatagg acceattegt 2580
ctgaaaaggg atcgaagtgc aagtggcaat tcaggatttc agcatgaaac acatgcggaa 2640
gaaactccaa accagccttt caacagtgtg catctgtttt ccttcatggt tctagctctg 2700
aatgtggtga ctgtagcgac aatcacagtg aggcattttg taaatcaacg ggcagactac 2760
aaataccaga agctgcagaa ctattaacta acaggtccaa ccctaagtga gacatgtttc 2820
tccaggatgc caaaggaaat gctacctcgt ggctacacat attatgaata aatgaggaag 2880
                                                                   2917
ggcctgaaag tgacacacag gcctgcatgt aaaaaaa
```

<sup>&</sup>lt;210> 190

<sup>&</sup>lt;211> 607

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

- Met Glu Leu Val Arg Arg Leu Met Pro Leu Thr Leu Leu Ile Leu Ser 1 5 10 15
- Cys Leu Ala Glu Leu Thr Met Ala Glu Ala Glu Gly Asn Ala Ser Cys 20 25 30
- Thr Val Ser Leu Gly Gly Ala Asn Met Ala Glu Thr His Lys Ala Met 35 40 45
- Ile Leu Gln Leu Asn Pro Ser Glu Asn Cys Thr Trp Thr Ile Glu Arg
  50 55 60
- Pro Glu Asn Lys Ser Ile Arg Ile Ile Phe Ser Tyr Val Gln Leu Asp 65 70 75 80
- Pro Asp Gly Ser Cys Glu Ser Glu Asn Ile Lys Val Phe Asp Gly Thr 85 90 95
- Ser Ser Asn Gly Pro Leu Leu Gly Gln Val Cys Ser Lys Asn Asp Tyr 100 105 110
- Val Pro Val Phe Glu Ser Ser Ser Ser Thr Leu Thr Phe Gln Ile Val
- Thr Asp Ser Ala Arg Ile Gln Arg Thr Val Phe Val Phe Tyr Tyr Phe 130 135 140
- Phe Ser Pro Asn Ile Ser Ile Pro Asn Cys Gly Gly Tyr Leu Asp Thr 145 150 155 160
- Leu Glu Gly Ser Phe Thr Ser Pro Asn Tyr Pro Lys Pro His Pro Glu 165 170 175
- Leu Ala Tyr Cys Val Trp His Ile Gln Val Glu Lys Asp Tyr Lys Ile 180 185 190
- Lys Leu Asn Phe Lys Glu Ile Phe Leu Glu Ile Asp Lys Gln Cys Lys 195 200 205
- Phe Asp Phe Leu Ala Ile Tyr Asp Gly Pro Ser Thr Asn Ser Gly Leu 210 215 220
- Ile Gly Gln Val Cys Gly Arg Val Thr Pro Thr Phe Glu Ser Ser Ser 225 230 235 240
- Asn Ser Leu Thr Val Val Leu Ser Thr Asp Tyr Ala Asn Ser Tyr Arg 245 250 255
- Gly Phe Ser Ala Ser Tyr Thr Ser Ile Tyr Ala Glu Asn Ile Asn Thr 260 265 270
- Thr Ser Leu Thr Cys Ser Ser Asp Arg Met Arg Val Ile Ile Ser Lys 275 280 285

- Ser Tyr Leu Glu Ala Phe Asn Ser Asn Gly Asn Asn Leu Gln Leu Lys 290 295 300
- Asp Pro Thr Cys Arg Pro Lys Leu Ser Asn Val Val Glu Phe Ser Val 305 310 315 320
- Pro Leu Asn Gly Cys Gly Thr Ile Arg Lys Val Glu Asp Gln Ser Ile 325 330 335
- Thr Tyr Thr Asn Ile Ile Thr Phe Ser Ala Ser Ser Thr Ser Glu Val\$340\$ \$345\$ \$350
- Ile Thr Arg Gln Lys Gln Leu Gln Ile Ile Val Lys Cys Glu Met Gly 355 360 365
- His Asn Ser Thr Val Glu Ile Ile Tyr Ile Thr Glu Asp Asp Val Ile 370 375 380
- Gln Ser Gln Asn Ala Leu Gly Lys Tyr Asn Thr Ser Met Ala Leu Phe 385 390 395 400
- Glu Ser Asn Ser Phe Glu Lys Thr Ile Leu Glu Ser Pro Tyr Tyr Val 405 410 415
- Asp Leu Asn Gln Thr Leu Phe Val Gln Val Ser Leu His Thr Ser Asp 420 425 430
- Pro Asn Leu Val Val Phe Leu Asp Thr Cys Arg Ala Ser Pro Thr Ser 435 440 445
- Asp Phe Ala Ser Pro Thr Tyr Asp Leu Ile Lys Ser Gly Cys Ser Arg 450 455 460
- Asp Glu Thr Cys Lys Val Tyr Pro Leu Phe Gly His Tyr Gly Arg Phe 465 470 475 480
- Gln Phe Asn Ala Phe Lys Phe Leu Arg Ser Met Ser Ser Val Tyr Leu 485 490 495
- Gln Cys Lys Val Leu Ile Cys Asp Ser Ser Asp His Gln Ser Arg Cys 500 505 510
- Asn Gln Gly Cys Val Ser Arg Ser Lys Arg Asp Ile Ser Ser Tyr Lys 515 520 525
- Trp Lys Thr Asp Ser Ile Ile Gly Pro Ile Arg Leu Lys Arg Asp Arg 530 535 540
- Ser Ala Ser Gly Asn Ser Gly Phe Gln His Glu Thr His Ala Glu Glu 545 550 560
- Thr Pro Asn Gln Pro Phe Asn Ser Val His Leu Phe Ser Phe Met Val

	565	570	575
Leu Ala Leu Asn 580	Val Val Thr Val A	la Thr Ile Thr Val 85	Arg His Phe 590
Val Asn Gln Arg 595	Ala Asp Tyr Lys T	yr Gln Lys Leu Gln 605	Asn Tyr
<210> 191 <211> 21 <212> DNA <213> Artificia	l Sequence		
	on of Artificial S eotide probe	equence: Synthetic	:
<400> 191 tctctattcc aaac	tgtggc g		21
<210> 192 <211> 22 <212> DNA <213> Artificia	l Sequence		
	on of Artificial S eotide probe	Sequence: Synthetic	;
<400> 192 tttgatgacg attc	gaaggt gg		22
<210> 193 <211> 47 <212> DNA <213> Artificia	al Sequence		
	Lon of Artificial S Leotide probe	Sequence: Synthetic	2
<400> 193 ggaaggatcc ttca	accagee ecaattacee	aaagccgcat cctgag	c 47
<210> 194 <211> 2362 <212> DNA <213> Homo sapi	lens		
cqqqacatgc ggcc	cccagga gctccccagg	ctcgcgttcc cgttgc	cagc eggeetgege 60 tget gttgetgttg 120 tega ecceaeetgg 180

```
gagtccctgg acgcccgcca gctgcccgcg tggtttgacc aggccaagtt cggcatcttc 240
atccactggg gagtgttttc cgtgcccagc ttcggtagcg agtggttctg gtggtattgg 300
caaaaggaaa agataccgaa gtatgtggaa tttatgaaag ataattaccc tcctagtttc 360
aaatatgaag attttggacc actatttaca gcaaaatttt ttaatgccaa ccagtgggca 420
gatatttttc aggcctctgg tgccaaatac attgtcttaa cttccaaaca tcatgaaggc 480
tttaccttgt gggggtcaga atattcgtgg aactggaatg ccatagatga ggggcccaag 540
agggacattg tcaaggaact tgaggtagcc attaggaaca gaactgacct gcgttttgga 600
ctgtactatt ccctttttga atggtttcat ccgctcttcc ttgaggatga atccagttca 660
ttccataagc ggcaatttcc agtttctaag acattgccag agctctatga gttagtgaac 720
aactatcagc ctgaggttct gtggtcggat ggtgacggag gagcaccgga tcaatactgg 780
aacagcacag gcttcttggc ctggttatat aatgaaagcc cagttcgggg cacagtagtc 840
accaatgate gttggggage tggtageate tgtaageatg gtggetteta tacetgeagt 900
gatcgttata acccaggaca tcttttgcca cataaatggg aaaactgcat gacaatagac 960
aaactgtcct ggggctatag gagggaagct ggaatctctg actatcttac aattgaagaa 1020
ttggtgaagc aacttgtaga gacagtttca tgtggaggaa atcttttgat gaatattggg 1080
cccacactag atggcaccat ttctgtagtt tttgaggagc gactgaggca agtggggtcc 1140
tggctaaaag tcaatggaga agctatttat gaaacctata cctggcgatc ccagaatgac 1200
actgtcaccc cagatgtgtg gtacacatcc aagcctaaag aaaaattagt ctatgccatt 1260
tttcttaaat ggcccacatc aggacagctg ttccttggcc atcccaaagc tattctgggg 1320
gcaacagagg tgaaactact gggccatgga cagccactta actggatttc tttggagcaa 1380
aatggcatta tggtagaact gccacagcta accattcatc agatgccgtg taaatggggc 1440
tgggctctag ccctaactaa tgtgatctaa agtgcagcag agtggctgat gctgcaagtt 1500
atgtctaagg ctaggaacta tcaggtgtct ataattgtag cacatggaga aagcaatgta 1560
aactggataa gaaaattatt tggcagttca gccctttccc tttttcccac taaatttttc 1620
ttaaattacc catgtaacca ttttaactct ccagtgcact ttgccattaa agtctcttca 1680
cattgatttg tttccatgtg tgactcagag gtgagaattt tttcacatta tagtagcaag 1740
gaattggtgg tattatggac cgaactgaaa attttatgtt gaagccatat cccccatgat 1800
tatatagtta tgcatcactt aatatgggga tattttctgg gaaatgcatt gctagtcaat 1860
ttttttttgt gccaacatca tagagtgtat ttacaaaatc ctagatggca tagcctacta 1920
cacacctaat gtgtatggta tagactgttg ctcctaggct acagacatat acagcatgtt 1980
actgaatact gtaggcaata gtaacagtgg tatttgtata tcgaaacata tggaaacata 2040
gagaaggtac agtaaaaata ctgtaaaata aatggtgcac ctgtataggg cacttaccac 2100
gaatggagct tacaggactg gaagttgctc tgggtgagtc agtgagtgaa tgtgaaggcc 2160
taggacatta ttgaacactg ccagacgtta taaatactgt atgcttaggc tacactacat 2220
ttataaaaaa aagtttttct ttcttcaatt ataaattaac ataagtgtac tgtaacttta 2280
caaacgtttt aatttttaaa acctttttgg ctcttttgta ataacactta gcttaaaaca 2340
                                                                   2362
taaactcatt qtqcaaatgt aa
<210> 195
<211> 467
<212> PRT
<213> Homo sapiens
```

```
<400> 195
```

```
Met Arg Pro Gln Glu Leu Pro Arg Leu Ala Phe Pro Leu Leu Leu 1 5 10 15
```

Leu Leu Leu Leu Pro Pro Pro Pro Cys Pro Ala His Ser Ala Thr

Arg Phe Asp Pro Thr Trp Glu Ser Leu Asp Ala Arg Gln Leu Pro Ala
35 40 45

- Trp Phe Asp Gln Ala Lys Phe Gly Ile Phe Ile His Trp Gly Val Phe 50 55 60
- Ser Val Pro Ser Phe Gly Ser Glu Trp Phe Trp Trp Tyr Trp Gln Lys 65 70 75 80
- Glu Lys Ile Pro Lys Tyr Val Glu Phe Met Lys Asp Asn Tyr Pro Pro 85 90 95
- Ser Phe Lys Tyr Glu Asp Phe Gly Pro Leu Phe Thr Ala Lys Phe Phe 100 105 110
- Asn Ala Asn Gln Trp Ala Asp Ile Phe Gln Ala Ser Gly Ala Lys Tyr 115 120 125
- Ile Val Leu Thr Ser Lys His His Glu Gly Phe Thr Leu Trp Gly Ser 130 135 140
- Ile Val Lys Glu Leu Glu Val Ala Ile Arg Asn Arg Thr Asp Leu Arg 165 170 175
- Phe Gly Leu Tyr Tyr Ser Leu Phe Glu Trp Phe His Pro Leu Phe Leu 180 185 190
- Glu Asp Glu Ser Ser Ser Phe His Lys Arg Gln Phe Pro Val Ser Lys 195 200 205
- Thr Leu Pro Glu Leu Tyr Glu Leu Val Asn Asn Tyr Gln Pro Glu Val 210 215 220
- Leu Trp Ser Asp Gly Asp Gly Gly Ala Pro Asp Gln Tyr Trp Asn Ser 225 230 235 240
- Thr Gly Phe Leu Ala Trp Leu Tyr Asn Glu Ser Pro Val Arg Gly Thr 245 250 255
- Val Val Thr Asn Asp Arg Trp Gly Ala Gly Ser Ile Cys Lys His Gly 260 265 270
- Gly Phe Tyr Thr Cys Ser Asp Arg Tyr Asn Pro Gly His Leu Leu Pro 275 280 285
- His Lys Trp Glu Asn Cys Met Thr Ile Asp Lys Leu Ser Trp Gly Tyr 290 295 300
- Arg Arg Glu Ala Gly Ile Ser Asp Tyr Leu Thr Ile Glu Glu Leu Val 305 310 315 320
- Lys Gln Leu Val Glu Thr Val Ser Cys Gly Gly Asn Leu Leu Met Asn 325 330 335

Ile	Gly	Pro	Thr 340	Leu	Asp	Gly	Thr	Ile 345	Ser	Val	Val	Phe	Glu 350	Glu	Arg	
Leu	Arg	Gln 355	Val	Gly	Ser	Trp	Leu 360	Lys	Val	Asn	Gly	Glu 365	Ala	Ile	Tyr	
Glu	Thr 370	Tyr	Thr	Trp	Arg	Ser 375	Gln	Asn	Asp	Thr	Val 380	Thr	Pro	Asp	Val	
Trp 385	Tyr	Thr	Ser	Lys	Pro 390	Lys	Glu	Lys	Leu	Val 395	Tyr	Ala	Ile	Phe	Leu 400	
Lys	Trp	Pro	Thr	Ser 405	Gly	Gln	Leu	Phe	Leu 410	Gly	His	Pro	Lys	Ala 415	Ile	
Leu	Gly	Ala	Thr 420	Glu	Val	Lys	Leu	Leu 425	Gly	His	Gly	Gln	Pro 430	Leu	Asn	
Trp	Ile	Ser 435		Glu	Gln	Asn	Gly 440	Ile	Met	Val	Glu	Leu 445	Pro	Gln	Leu	
Thr	Ile 450		Gln	Met	Pro	Cys 455		Trp	Gly	Trp	Ala 460	Leu	Ala	Leu	Thr	
Asn 465		Ile														
<21 <21	0 > 1 1 > 2 2 > E 3 > A	3 NA	icia	ıl Se	equen	.ce										
<22 <22	3> I		ipti nucl					. Seq	uenc	e: S	ynth	netic	!			
	)0> I		aggo	caaç	gtt c	:gg										23
<23 <23	10> 1 11> 2 12> I 13> I	24 ONA	icia	al Se	equer	ıce										
<22 <22			ripti					L Sec	quenc	ce: S	Syntl	netio	c			
	00> :		tcaa	aggaa	aga (	gcgg										24
<2	10>	198														

```
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 198
                                                                  24
aacttqcagc atcagccact ctgc
<210> 199
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 199
                                                                   45
ttccgtgccc agcttcggta gcgagtggtt ctggtggtat tggca
<210> 200
<211> 2372
<212> DNA
<213> Homo sapiens
<400> 200
agcagggaaa tooggatgto toggttatga agtggagcag tgagtgtgag cotcaacata 60
gttccagaac tctccatccg gactagttat tgagcatctg cctctcatat caccagtggc 120
catctgaggt gtttccctgg ctctgaaggg gtaggcacga tggccaggtg cttcagcctg 180
gtgttgcttc tcacttccat ctggaccacg aggctcctgg tccaaggctc tttgcgtgca 240
gaagagettt ccatccaggt gtcatgcaga attatgggga tcacccttgt gagcaaaaag 300
gegaaceage agetgaattt cacagaaget aaggaggeet gtaggetget gggaetaagt 360
ttggccggca aggaccaagt tgaaacagcc ttgaaagcta gctttgaaac ttgcagctat 420
ggctgggttg gagatggatt cgtggtcatc tctaggatta gcccaaaccc caagtgtggg 480
aaaaatgggg tgggtgtcct gatttggaag gttccagtga gccgacagtt tgcagcctat 540
tgttacaact catctgatac ttggactaac tcgtgcattc cagaaattat caccaccaaa 600
gatcccatat tcaacactca aactgcaaca caaacaacag aatttattgt cagtgacagt 660
acctactcgg tggcatcccc ttactctaca atacctgccc ctactactac tcctcctgct 720
ccagcttcca cttctattcc acggagaaaa aaattgattt gtgtcacaga agtttttatg 780
gaaactagca ccatgtctac agaaactgaa ccatttgttg aaaataaagc agcattcaag 840
aatgaagetg etgggtttgg aggtgteece aeggetetge tagtgettge teteetette 900
tttggtgctg cagctggtct tggattttgc tatgtcaaaa ggtatgtgaa ggccttccct 960
 tttacaaaca agaatcagca gaaggaaatg atcgaaacca aagtagtaaa ggaggagaag 1020
gccaatgata gcaaccctaa tgaggaatca aagaaaactg ataaaaaccc agaagagtcc 1080
aagagtccaa gcaaaactac cgtgcgatgc ctggaagctg aagtttagat gagacagaaa 1140
tgaggagaca cacctgaggc tggtttcttt catgctcctt accctgcccc agctggggaa 1200
atcaaaaggg ccaaagaacc aaagaagaaa gtccaccctt ggttcctaac tggaatcagc 1260
tcaggactgc cattggacta tggagtgcac caaagagaat gcccttctcc ttattgtaac 1320
cctgtctgga tcctatcctc ctacctccaa agcttcccac ggcctttcta gcctggctat 1380
gtcctaataa tatcccactg ggagaaagga gttttgcaaa gtgcaaggac ctaaaacatc 1440
```

```
tcatcagtat ccagtggtaa aaaggcctcc tggctgtctg aggctaggtg ggttgaaagc 1500
caaggagtca ctgagaccaa ggctttctct actgattccg cagctcagac cctttcttca 1560
gctctgaaag agaaacacgt atcccacctg acatgtcctt ctgagcccgg taagagcaaa 1620
agaatggcag aaaagtttag cccctgaaag ccatggagat tctcataact tgagacctaa 1680
tctctgtaaa gctaaaataa agaaatagaa caaggctgag gatacgacag tacactgtca 1740
gcagggactg taaacacaga cagggtcaaa gtgttttctc tgaacacatt gagttggaat 1800
cactgtttag aacacacac cttacttttt ctggtctcta ccactgctga tattttctct 1860
aggaaatata cttttacaag taacaaaaat aaaaactctt ataaatttct attttatct 1920
gagttacaga aatgattact aaggaagatt actcagtaat ttgtttaaaa agtaataaaa 1980
ttcaacaaac atttgctgaa tagctactat atgtcaagtg ctgtgcaagg tattacactc 2040
tgtaattgaa tattattcct caaaaaattg cacatagtag aacgctatct gggaagctat 2100
ttttttcagt tttgatattt ctagcttatc tacttccaaa ctaattttta tttttgctga 2160
gactaatctt attcattttc tctaatatgg caaccattat aaccttaatt tattattaac 2220
atacctaaqa agtacattqt tacctctata taccaaagca cattttaaaa gtgccattaa 2280
caaatgtatc actagccctc ctttttccaa caagaaggga ctgagagatg cagaaatatt 2340
tgtgacaaaa aattaaagca tttagaaaac tt
<210> 201
<211> 322
<212> PRT
<213> Artificial sequence
<220>
<223> Synthetic protein
<400> 201
Met Ala Arg Cys Phe Ser Leu Val Leu Leu Leu Thr Ser Ile Trp Thr
  1
Thr Arg Leu Leu Val Gln Gly Ser Leu Arg Ala Glu Glu Leu Ser Ile
Gln Val Ser Cys Arg Ile Met Gly Ile Thr Leu Val Ser Lys Lys Ala
                                                  45
                              40
Asn Gln Gln Leu Asn Phe Thr Glu Ala Lys Glu Ala Cys Arg Leu Leu
Gly Leu Ser Leu Ala Gly Lys Asp Gln Val Glu Thr Ala Leu Lys Ala
Ser Phe Glu Thr Cys Ser Tyr Gly Trp Val Gly Asp Gly Phe Val Val
                 85
Ile Ser Arq Ile Ser Pro Asn Pro Lys Cys Gly Lys Asn Gly Val Gly
Val Leu Ile Trp Lys Val Pro Val Ser Arg Gln Phe Ala Ala Tyr Cys
        115
                             120
Tyr Asn Ser Ser Asp Thr Trp Thr Asn Ser Cys Ile Pro Glu Ile Ile
    130
                         135
                                             140
```

Thr Thr Lys Asp Pro Ile Phe Asn Thr Gln Thr Ala Thr Gln Thr Thr

150

145

<212> DNA

<213> Artificial Sequence

Glu	Phe	Ile	Val	Ser 165	Asp	Ser	Thr	Tyr	Ser 170	Val	Ala	Ser	Pro	Tyr 175	Ser	
Thr	Ile	Pro	Ala 180	Pro	Thr	Thr	Thr	Pro 185	Pro	Ala	Pro	Ala	Ser 190	Thr	Ser	
Ile	Pro	Arg 195	Arg	Lys	Lys	Leu	Ile 200	Cys	Val	Thr	Glu	Val 205	Phe	Met	Glu	
Thr	Ser 210	Thr	Met	Ser	Thr	Glu 215	Thr	Glu	Pro	Phe	Val 220	Glu	Asn	Lys	Ala	
Ala 225	Phe	Lys	Asn	Glu	Ala 230	Ala	Gly	Phe	Gly	Gly 235	Val	Pro	Thr	Ala	Leu 240	
Leu	Val	Leu	Ala	Leu 245	Leu	Phe	Phe	Gly	Ala 250	Ala	Ala	Gly	Leu	Gly 255	Phe	
Cys	Tyr	Val	Lys 260	Arg	Tyr	Val	Lys	Ala 265	Phe	Pro	Phe	Thr	Asn 270	Lys	Asn	
Gln	Gln	Lys 275	Glu	Met	Ile	Glu	Thr 280	Lys	Val	Val	Lys	Glu 285	Glu	Lys	Ala	
Asn	Asp 290	Ser	Asn	Pro	Asn	Glu 295	Glu	Ser	Lys	Lys	Thr 300	Asp	Lys	Asn	Pro	
Glu 305	Glu	Ser	Lys	Ser	Pro 310	Ser	Lys	Thr	Thr	Val 315		Cys	Leu	Glu	Ala 320	
Glu	Val															
<21:	0 > 2 1 > 2 2 > D 3 > A	4 NA	icia	l Se	quen	ce										
<22 <22	3 > D			on o eoti				Seq	uenc	e: S	ynth	etic				
	0> 2 cttt		tcca	.ggtg	tc a	.tgc										24
	0 > 2 1 > 2															

```
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 203
                                                                   22
gtcagtgaca gtacctactc gg
<210> 204
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 204
                                                                    24
tggagcagga ggagtagtag tagg
<210> 205
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 205
aggaggcctg taggctgctg ggactaagtt tggccggcaa ggaccaagtt
<210> 206
<211> 1620
<212> DNA
<213> Homo sapiens
<220>
<221> modified base
<222> (973)
<223> a, t, c or g
<220>
<221> modified base
<222> (977)
<223> a, t, c or g
<220>
<221> modified base
<222> (996)
<223> a, t, c or g
<220>
<221> modified_base
```

```
<222> (1003)
<223> a, t, c or g
<400> 206
agatggcggt cttggcacct ctaattgctc tcgtgtattc ggtgccgcga ctttcacgat 60
ggetegeeca acettaetae ettetgtegg ecetgetete tgetgeette etaetegtga 120
ggaaactgcc gccgctctgc cacggtctgc ccacccaacg cgaagacggt aacccgtgtg 180
actttgactg gagagaagtg gagatcctga tgtttctcag tgccattgtg atgatgaaga 240
accgcagatc catcactgtg gagcaacata taggcaacat tttcatgttt agtaaagtgg 300
ccaacacaat totttotto cgottggata ttogcatggg cotactttac atcacactot 360
gcatagtgtt cctgatgacg tgcaaacccc ccctatatat gggccctgag tatatcaagt 420
acttcaatga taaaaccatt gatgaggaac tagaacggga caagagggtc acttggattg 480
tggagttett tgccaattgg tetaatgaet gccaateatt tgeceetate tatgetgaee 540
tctcccttaa atacaactgt acagggctaa attttgggaa ggtggatgtt ggacgctata 600
ctgatgttag tacgcggtac aaagtgagca catcacccct caccaagcaa ctccctaccc 660
tgatcctgtt ccaaggtggc aaggaggcaa tgcggcggcc acagattgac aagaaaggac 720
gggctgtctc atggaccttc tctgaggaga atgtgatccg agaatttaac ttaaatgagc 780
tataccagcg ggccaagaaa ctatcaaagg ctggagacaa tatccctgag gagcagcctg 840
tggcttcaac ccccaccaca gtgtcagatg gggaaaacaa gaaggataaa taagatcctc 900
actttggcag tgcttcctct cctgtcaatt ccaggctctt tccataacca caagcctgag 960
gctgcagcct ttnattnatg ttttcccttt ggctgngact ggntggggca gcatgcagct 1020
tetgatttta aagaggeate tagggaattg teaggeacee tacaggaagg cetgecatge 1080
tgtggccaac tgtttcactg gagcaagaaa gagatctcat aggacggagg gggaaatggt 1140
ttccctccaa gcttgggtca gtgtgttaac tgcttatcag ctattcagac atctccatgg 1200
tttctccatg aaactctgtg gtttcatcat tccttcttag ttgacctgca cagcttggtt 1260
agacctagat ttaaccctaa ggtaagatgc tggggtatag aacgctaaga attttccccc 1320
aaggactett getteettaa geeettetgg ettegttat ggtetteatt aaaagtataa 1380
gcctaacttt gtcgctagtc ctaaggagaa acctttaacc acaaagtttt tatcattgaa 1440
gacaatattg aacaaccccc tattttgtgg ggattgagaa ggggtgaata gaggcttgag 1500
actttccttt gtgtggtagg acttggagga gaaatcccct ggactttcac taaccctctg 1560
acatactccc cacacccagt tgatggcttt ccgtaataaa aagattggga tttccttttg 1620
<210> 207
<211> 296
<212> PRT
<213> Homo sapiens
<400> 207
Met Ala Val Leu Ala Pro Leu Ile Ala Leu Val Tyr Ser Val Pro Arg
Leu Ser Arg Trp Leu Ala Gln Pro Tyr Tyr Leu Leu Ser Ala Leu Leu
                                  2.5
             20
Ser Ala Ala Phe Leu Leu Val Arg Lys Leu Pro Pro Leu Cys His Gly
Leu Pro Thr Gln Arg Glu Asp Gly Asn Pro Cys Asp Phe Asp Trp Arg
     50
 Glu Val Glu Ile Leu Met Phe Leu Ser Ala Ile Val Met Met Lys Asn
                                          75
                      70
  65
```

Arg Arg Ser Ile Thr Val Glu Gln His Ile Gly Asn Ile Phe Met Phe 85 90 95

Ser Lys Val Ala Asn Thr Ile Leu Phe Phe Arg Leu Asp Ile Arg Met 100 105 110

Gly Leu Leu Tyr Ile Thr Leu Cys Ile Val Phe Leu Met Thr Cys Lys
115 120 125

Pro Pro Leu Tyr Met Gly Pro Glu Tyr Ile Lys Tyr Phe Asn Asp Lys 130 135 140

Thr Ile Asp Glu Glu Leu Glu Arg Asp Lys Arg Val Thr Trp Ile Val
145 150 155 160

Glu Phe Phe Ala Asn Trp Ser Asn Asp Cys Gln Ser Phe Ala Pro Ile 165 170 175

Tyr Ala Asp Leu Ser Leu Lys Tyr Asn Cys Thr Gly Leu Asn Phe Gly 180 185 190

Lys Val Asp Val Gly Arg Tyr Thr Asp Val Ser Thr Arg Tyr Lys Val

Ser Thr Ser Pro Leu Thr Lys Gln Leu Pro Thr Leu Ile Leu Phe Gln 210 215 220

Gly Gly Lys Glu Ala Met Arg Arg Pro Gln Ile Asp Lys Lys Gly Arg 225 230 235 240

Ala Val Ser Trp Thr Phe Ser Glu Glu Asn Val Ile Arg Glu Phe Asn 245 250 255

Leu Asn Glu Leu Tyr Gln Arg Ala Lys Lys Leu Ser Lys Ala Gly Asp 260 265 270

Asn Ile Pro Glu Glu Gln Pro Val Ala Ser Thr Pro Thr Thr Val Ser 275 280 285

Asp Gly Glu Asn Lys Lys Asp Lys 290 295

<210> 208

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide probe

<400> 208

qcttqqatat tcgcatgggc ctac

```
<210> 209
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 209
                                                                   20
tgqagacaat atccctgagg
<210> 210
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 210
                                                                   24
aacaqttqqc cacagcatgg cagg
<210> 211
<211> 50
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 211
                                                                   50
ccattgatga ggaactagaa cgggacaaga gggtcacttg gattgtggag
<210> 212
<211> 1985
<212> DNA
<213> Homo sapiens
<400> 212
ggacageteg eggeeecega gagetetage egtegaggag etgeetgggg aegtttgeee 60
tggggcccca gcctggcccg ggtcaccctg gcatgaggag atgggcctgt tgctcctggt 120
cccattgctc ctgctgcccg gctcctacgg actgcccttc tacaacggct tctactactc 180
caacagegee aacgaccaga acctaggeaa eggteatgge aaagacetee ttaatggagt 240
gaagetggtg gtggagacae cegaggagae cetgtteace taccaagggg ceagtgtgat 300
cetgecetge egetaceget acgageegge cetggtetee eegeggegtg tgegtgteaa 360
 atggtggaag etgteggaga acggggeece agagaaggae gtgetggtgg ecateggget 420
gaggcaccgc tcctttgggg actaccaagg ccgcgtgcac ctgcggcagg acaaagagca 480
 tgacgtctcg ctggagatcc aggatctgcg gctggaggac tatgggcgtt accgctgtga 540
 ggtcattgac gggctggagg atgaaagcgg tctggtggag ctggagctgc ggggtgtggt 600
```

```
ctttccttac cagtccccca acgggcgcta ccagttcaac ttccacgagg gccagcaggt 660
ctgtgcagag caggctgcgg tggtggcctc ctttgagcag ctcttccggg cctgggagga 720
gggcctggac tggtgcaacg cgggctggct gcaggatgct acggtgcagt accccatcat 780
gttgccccgg cagccctgcg gtggcccagg cctggcacct ggcgtgcgaa gctacggccc 840
ccgccaccgc cgcctgcacc gctatgatgt attctgcttc gctactgccc tcaaggggcg 900
ggtgtactac ctggagcacc ctgagaagct gacgctgaca gaggcaaggg aggcctgcca 960
ggaagatgat gccacgatcg ccaaggtggg acagctcttt gccgcctgga agttccatgg 1020
cetggacege tgegaegetg getggetgge agatggeage gteegetace etgtggttea 1080
cccgcatcct aactgtgggc ccccagagcc tggggtccga agctttggct tccccgaccc 1140
gcagagccgc ttgtacggtg tttactgcta ccgccagcac taggacctgg ggccctcccc 1200
tgccgcattc cctcactggc tgtgtattta ttgagtggtt cgttttccct tgtgggttgg 1260
agccatttta actgttttta tacttctcaa tttaaaatttt ctttaaacat ttttttacta 1320
ttttttgtaa agcaaacaga acccaatgcc tccctttgct cctggatgcc ccactccagg 1380
aatcatgett geteeeetgg gecatttgeg gttttgtggg ettetggagg gtteeeegee 1440
atccaggctg gtctccctcc cttaaggagg ttggtgccca gagtgggcgg tggcctgtct 1500
agaatgccgc cgggagtccg ggcatggtgg gcacagttct ccctgcccct cagcctgggg 1560
gaagaagagg gcctcggggg cctccggagc tgggctttgg gcctctcctg cccacctcta 1620
cttctctgtg aagccgctga ccccagtctg cccactgagg ggctagggct ggaagccagt 1680
tetaggette caggegaaat etgagggaag gaagaaacte ceeteceegt teeeetteee 1740
ctctcggttc caaagaatct gttttgttgt catttgtttc tcctgtttcc ctgtgtgggg 1800
aggggccctc aggtgtgtgt actttggaca ataaatggtg ctatgactgc cttccgccaa 1860
1985
aaaaa
<210> 213
<211> 360
<212> PRT
<213> Homo sapiens
<400> 213
Met Gly Leu Leu Leu Val Pro Leu Leu Leu Pro Gly Ser Tyr
Gly Leu Pro Phe Tyr Asn Gly Phe Tyr Tyr Ser Asn Ser Ala Asn Asp
                                                  30
                               25
Gln Asn Leu Gly Asn Gly His Gly Lys Asp Leu Leu Asn Gly Val Lys
Leu Val Val Glu Thr Pro Glu Glu Thr Leu Phe Thr Tyr Gln Gly Ala
                        55
Ser Val Ile Leu Pro Cys Arg Tyr Arg Tyr Glu Pro Ala Leu Val Ser
```

Pro Glu Lys Asp Val Leu Val Ala Ile Gly Leu Arg His Arg Ser Phe
100 105 110

Pro Arg Arg Val Arg Val Lys Trp Trp Lys Leu Ser Glu Asn Gly Ala

75

Gly Asp Tyr Gln Gly Arg Val His Leu Arg Gln Asp Lys Glu His Asp

		115					120					125			
Val	Ser 130	Leu	Glu	Ile	Gln	Asp 135	Leu	Arg	Leu	Glu	Asp 140	Tyr	Gly	Arg	Tyr
Arg 145	Cys	Glu	Val	Ile	Asp 150	Gly	Leu	Glu	Asp	Glu 155	Ser	Gly	Leu	Val	Glu 160
Leu	Glu	Leu	Arg	Gly 165	Val	Val	Phe	Pro	Tyr 170	Gln	Ser	Pro	Asn	Gly 175	Arg
Tyr	Gln	Phe	Asn 180	Phe	His	Glu	Gly	Gln 185	Gln	Val	Cys	Ala	Glu 190	Gln	Ala
Ala	Val	Val 195	Ala	Ser	Phe	Glu	Gln 200	Leu	Phe	Arg	Ala	Trp 205	Glu	Glu	Gly
Leu	Asp 210	Trp	Cys	Asn	Ala	Gly 215	Trp	Leu	Gln	Asp	Ala 220	Thr	Val	Gln	Tyr
Pro 225	Ile	Met	Leu	Pro	Arg 230	Gln	Pro	Cys	Gly	Gly 235	Pro	Gly	Leu	Ala	Pro 240
Gly	Val	Arg	Ser	Tyr 245	Gly	Pro	Arg	His	Arg 250	Arg	Leu	His	Arg	Tyr 255	Asp
Val	Phe	Cys	Phe 260	Ala	Thr	Ala	Leu	Lys 265	Gly	Arg	Val	Tyr	Tyr 270	Leu	Glu
His	Pro	Glu 275		Leu	Thr	Leu	Thr 280	Glu	Ala	Arg	Glu	Ala 285	Cys	Gln	Glu
Asp	Asp 290		Thr	Ile	Ala	Lys 295	Val	Gly	Gln	. Leu	Phe 300	Ala	Ala	Trp	Lys
Phe 305		Gly	Leu	Asp	Arg 310		Asp	Ala	Gly	Trp 315	Leu	. Ala	Asp	Gly	Ser 320
Val	Arg	Tyr	Pro	Val 325	Val	His	Pro	His	Pro	Asn	. Cys	Gly	Pro	9ro 335	Glu
Pro	Gly	v Val	. Arg		Phe	Gly	Phe	Pro 345		Pro	Gln	ser	Arg 350	Leu	Tyr
Gly	Val	. Tyr 355	Cys	Tyr	Arg	g Gln	His 360								
<21 <21	.0> 2 .1> 1 .2> I	l8 DNA	Eicia	al Se	equer	ıce									
<22	20>														

	Description of Artificial oligonucleotide probe	Sequence:	Synthetic	
<400> a	214 geta etgeeete			18
<210> 2 <211> 2 <212> 1 <213> 2	18			
	Description of Artificial oligonucleotide probe	Sequence:	Synthetic	
<400> :	215 tgtg ggttggag			18
<210> 3 <211> 3 <212> 3 <213> 4	18			
	Description of Artificial oligonucleotide probe	Sequence:	Synthetic	
<400>	216 ggaa gecagtte			18
<210><211><211><212><213>	18			
	Description of Artificial oligonucleotide probe	Sequence:	Synthetic	
<400> agccag	217 tgag gaaatgcg			18
<210><211><211><212><212>	24			
	Description of Artificial oligonucleotide probe	Sequence:	Synthetic	
<400>	218 aagt acacacacct gagg			24

```
<210> 219
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 219
gatgccacga tcgccaaggt gggacagctc tttgccgcct ggaag
                                                                45
<210> 220
<211> 1503
<212> DNA
<213> Homo sapiens
<400> 220
ggagagcgga gcgaagctgg ataacagggg accgatgatg tggcgaccat cagttctgct 60
gettetgttg etactgagge acggggecca ggggaagcca teeccagacg caggeectca 120
tggccagggg agggtgcacc aggcggccc cctgagcgac gctccccatg atgacgccca 180
cgggaacttc cagtacgacc atgaggcttt cctgggacgg gaagtggcca aggaattcga 240
ccaactcacc ccagaggaaa gccaggcccg tctggggcgg atcgtggacc gcatggaccg 300
cgcgggggac ggcgacggct gggtgtcgct ggccgagctt cgcgcgtgga tcgcgcacac 360
gcagcagcgg cacatacggg actcggtgag cgcggcctgg gacacgtacg acacggaccg 420
cgacgggcgt gtgggttggg aggagctgcg caacgccacc tatggccact acgcgcccgg 480
tgaagaattt catgacgtgg aggatgcaga gacctacaaa aagatgctgg ctcgggacga 540
geggegttte egggtggeeg accaggatgg ggaetegatg gecaetegag aggagetgae 600
agcetteetg caceeegagg agtteeetca catgegggae ategtgattg etgaaaceet 660
ggaggacctg gacagaaaca aagatggcta tgtccaggtg gaggagtaca tcgcggatct 720
gtactcagcc gagcctgggg aggaggagcc ggcgtgggtg cagacggaga ggcagcagtt 780
ccgggacttc cgggatctga acaaggatgg gcacctggat gggagtgagg tgggccactg 840
ggtgctgccc cctgcccagg accagccct ggtggaagcc aaccacctgc tgcacgagag 900
cgacacggac aaggatgggc ggctgagcaa agcggaaatc ctgggtaatt ggaacatgtt 960
tgtgggcagt caggccacca actatggcga ggacctgacc cggcaccacg atgagctgtg 1020
agcaccgcgc acctgccaca gcctcagagg cccgcacaat gaccggagga ggggccgctg 1080
tggtctggcc ccctccctgt ccaggccccg caggaggcag atgcagtccc aggcatcctc 1140
ctgcccctgg gctctcaggg accccctggg tcggcttctg tccctgtcac acccccaacc 1200
ccagggaggg gctgtcatag tcccagagga taagcaatac ctatttctga ctgagtctcc 1260
cagoccagac ccagggacco ttggccccaa gctcagctct aagaaccgcc ccaacccctc 1320
cagetecaaa tetgageete caccacatag aetgaaacte eeetggeeee ageeetetee 1380
tgcctggcct ggcctgggac acctcctctc tgccaggagg caataaaagc cagcgccggg 1440
1503
aaa
 <210> 221
 <211> 328
 <212> PRT
 <213> Homo sapiens
 <400> 221
Met Met Trp Arg Pro Ser Val Leu Leu Leu Leu Leu Leu Arg His
```

1				5					10					15	
Gly	Ala	Gln	Gly 20	Lys	Pro	Ser	Pro	Asp 25	Ala	Gly	Pro	His	Gly 30	Gln	Gly
Arg	Val	His 35	Gln	Ala	Ala	Pro	Leu 40	Ser	Asp	Ala	Pro	His 45	Asp	Asp	Ala
His	Gly 50	Asn	Phe	Gln	Tyr	Asp 55	His	Glu	Ala	Phe	Leu 60	Gly	Arg	Glu	Val
Ala 65	Lys	Glu	Phe	Asp	Gln 70	Leu	Thr	Pro	Glu	Glu 75	Ser	Gln	Ala	Arg	Leu 80
Gly	Arg	Ile	Val	Asp 85	Arg	Met	Asp	Arg	Ala 90	Gly	Asp	Gly	Asp	Gly 95	Trp
Val	Ser	Leu	Ala 100	Glu	Leu	Arg	Ala	Trp 105	Ile	Ala	His	Thr	Gln 110	Gln	Arg
His	Ile	Arg 115	Asp	Ser	Val	Ser	Ala 120	Ala	Trp	Asp	Thr	Tyr 125	Asp	Thr	Asp
Arg	Asp 130	Gly	Arg	Val	Gly	Trp 135	Glu	Glu	Leu	Arg	Asn 140	Ala	Thr	Tyr	Gly
His 145	Tyr	Ala	Pro	Gly	Glu 150	Glu	Phe	His	Asp	Val 155	Glu	Asp	Ala	Glu	Thr 160
Tyr	Lys	Lys	Met	Leu 165	Ala	Arg	Asp	Glu	Arg 170	Arg	Phe	Arg	Val	Ala 175	Asp
Gln	Asp	Gly	Asp 180	Ser	Met	Ala	Thr	Arg 185	Glu	Glu	Leu	Thr	Ala 190	Phe	Leu
His	Pro	Glu 195	Glu	Phe	Pro	His	Met 200	Arg	Asp	Ile	Val	Ile 205	Ala	Glu	Thr
Leu	Glu 210	Asp	Leu	Asp	Arg	Asn 215	Lys	Asp	Gly	Tyr	Val 220	Gln	Val	Glu	Glu
Tyr 225	Ile	Ala	Asp	Leu	Tyr 230	Ser	Ala	Glu	Pro	Gly 235	Glu	Glu	Glu	Pro	Ala 240
Trp	Val	Gln	Thr	Glu 245	Arg	Gln	Gln	Phe	Arg 250	Asp	Phe	Arg	Asp	Leu 255	Asn
Lys	Asp	Gly	His 260	Leu	Asp	Gly	Ser	Glu 265	Val	Gly	His	Trp	Val 270	Leu	Pro
Pro	Ala	Gln 275	Asp	Gln	Pro	Leu	Val 280	Glu	Ala	Asn	His	Leu 285	Leu	His	Glu

```
Ser Asp Thr Asp Lys Asp Gly Arg Leu Ser Lys Ala Glu Ile Leu Gly
    290
                         295
Asn Trp Asn Met Phe Val Gly Ser Gln Ala Thr Asn Tyr Gly Glu Asp
305
                    310
                                         315
Leu Thr Arg His His Asp Glu Leu
                325
<210> 222
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 222
cgcaggccct catggccagg
                                                                    20
<210> 223
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 223
gaaatcctgg gtaattgg
                                                                    18
<210> 224
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 224
gtgcgcggtg ctcacagctc atc
                                                                    23
<210> 225
<211> 44
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
```

```
<400> 225
ccccctgag cgacgetece ccatgatgae geccaeggga actt
                                                                  44
<210> 226
<211> 2403
<212> DNA
<213> Homo sapiens
<400> 226
ggggccttgc cttccgcact cgggcgcagc cgggtggatc tcgagcaggt gcggagcccc 60
gggcggcggg cgcgggtgcg agggatecet gacgcetetg tecetgttte tttgtegete 120
ccagcctgtc tgtcgtcgtt ttggcgcccc cgcctccccg cggtgcgggg ttgcacaccg 180
atcctgggct tegetegatt tgeegeegag gegeeteeca gaeetagagg ggegetggee 240
tggagcagcg ggtcgtctgt gtcctctctc ctctgcgccg cgcccgggga tccgaagggt 300
geggggetet gaggaggtga egegegggge etceegeace etggeettge eegeattete 360
cctctctccc aggtgtgagc agcctatcag tcaccatgtc cgcagcctgg atcccggctc 420
teggeetegg tgtgtgtetg etgetgetge eggggeeege gggeagegag ggageegete 480
ccattgctat cacatgtttt accagaggct tggacatcag gaaagagaaa gcagatgtcc 540
tetgeeeagg gggetgeeet ettgaggaat tetetgtgta tgggaacata gtatatgett 600
ctgtatcgag catatgtggg gctgctgtcc acaggggagt aatcagcaac tcagggggac 660
ctgtacgagt ctatagccta cctggtcgag aaaactattc ctcagtagat gccaatggca 720
tccagtctca aatgctttct agatggtctg cttctttcac agtaactaaa ggcaaaagta 780
gtacacagga ggccacagga caagcagtgt ccacagcaca tccaccaaca ggtaaacgac 840
taaagaaaac acccgagaag aaaactggca ataaagattg taaagcagac attgcatttc 900
tgattgatgg aagctttaat attgggcagc gccgatttaa tttacagaag aattttgttg 960
gaaaagtggc tctaatgttg ggaattggaa cagaaggacc acatgtgggc cttgttcaag 1020
ccagtgaaca tcccaaaata gaattttact tgaaaaactt tacatcagcc aaagatgttt 1080
tgtttgccat aaaggaagta ggtttcagag ggggtaattc caatacagga aaagccttga 1140
agcatactgc tcagaaattc ttcacggtag atgctggagt aagaaaaggg atccccaaag 1200
tggtggtggt atttattgat ggttggcctt ctgatgacat cgaggaagca ggcattgtgg 1260
ccagagagtt tggtgtcaat gtatttatag tttctgtggc caagcctatc cctgaagaac 1320
tggggatggt tcaggatgtc acatttgttg acaaggctgt ctgtcggaat aatggcttct 1380
totottacca catgoccaac tggtttggca ccacaaaata cgtaaagcct ctggtacaga 1440
agctgtgcac tcatgaacaa atgatgtgca gcaagacctg ttataactca gtgaacattg 1500
cctttctaat tgatggctcc agcagtgttg gagatagcaa tttccgcctc atgcttgaat 1560
ttgtttccaa catagccaag acttttgaaa tctcggacat tggtgccaag atagctgctg 1620
tacagtttac ttatgatcag cgcacggagt tcagtttcac tgactatagc accaaagaga 1680
atgtcctagc tgtcatcaga aacatccgct atatgagtgg tggaacagct actggtgatg 1740
ccatttcctt cactgttaga aatgtgtttg gccctataag ggagagcccc aacaagaact 1800
tectagtaat tgtcacagat gggcagteet atgatgatgt ecaaggeeet geagetgetg 1860
cacatgatgc aggaatcact atcttetetg ttggtgtggc ttgggcacct ctggatgacc 1920
tgaaagatat ggettetaaa eegaaggagt eteaegettt etteaeaaga gagtteaeag 1980
gattagaacc aattgtttct gatgtcatca gaggcatttg tagagatttc ttagaatccc 2040
agcaataatg gtaacatttt gacaactgaa agaaaaagta caaggggatc cagtgtgtaa 2100
attgtattct cataatactg aaatgcttta gcatactaga atcagataca aaactattaa 2160
gtatgtcaac agccatttag gcaaataagc actcctttaa agccgctgcc ttctggttac 2220
aatttacagt gtactttgtt aaaaacactg ctgaggcttc ataatcatgg ctcttagaaa 2280
ctcaggaaag aggagataat gtggattaaa accttaagag ttctaaccat gcctactaaa 2340
tgtacagata tgcaaattcc atagctcaat aaaagaatct gatacttaga ccaaaaaaaa 2400
                                                                  2403
aaa
```

<211> 550

<212> PRT

<213> Homo sapiens

<400> 227

Met Ser Ala Ala Trp Ile Pro Ala Leu Gly Leu Gly Val Cys Leu Leu 1 5 10 15

Leu Leu Pro Gly Pro Ala Gly Ser Glu Gly Ala Ala Pro Ile Ala Ile 20 25 30

Thr Cys Phe Thr Arg Gly Leu Asp Ile Arg Lys Glu Lys Ala Asp Val 35 40 45

Leu Cys Pro Gly Gly Cys Pro Leu Glu Glu Phe Ser Val Tyr Gly Asn 50 55 60

Ile Val Tyr Ala Ser Val Ser Ser Ile Cys Gly Ala Ala Val His Arg
65 70 75 80

Gly Val Ile Ser Asn Ser Gly Gly Pro Val Arg Val Tyr Ser Leu Pro 85 90 95

Gly Arg Glu Asn Tyr Ser Ser Val Asp Ala Asn Gly Ile Gln Ser Gln
100 105 110

Met Leu Ser Arg Trp Ser Ala Ser Phe Thr Val Thr Lys Gly Lys Ser 115 120 125

Ser Thr Gln Glu Ala Thr Gly Gln Ala Val Ser Thr Ala His Pro Pro 130 135 140

Thr Gly Lys Arg Leu Lys Lys Thr Pro Glu Lys Lys Thr Gly Asn Lys 145 150 155 160

Asp Cys Lys Ala Asp Ile Ala Phe Leu Ile Asp Gly Ser Phe Asn Ile 165 170 175

Gly Gln Arg Arg Phe Asn Leu Gln Lys Asn Phe Val Gly Lys Val Ala
180 185 190

Leu Met Leu Gly Ile Gly Thr Glu Gly Pro His Val Gly Leu Val Gln
195 200 205

Ala Ser Glu His Pro Lys Ile Glu Phe Tyr Leu Lys Asn Phe Thr Ser 210 215 220

Ala Lys Asp Val Leu Phe Ala Ile Lys Glu Val Gly Phe Arg Gly Gly 225 230 235 240

Asn Ser Asn Thr Gly Lys Ala Leu Lys His Thr Ala Gln Lys Phe Phe 245 250 255

- Thr Val Asp Ala Gly Val Arg Lys Gly Ile Pro Lys Val Val Val Val 260 265 270
- Phe Ile Asp Gly Trp Pro Ser Asp Asp Ile Glu Glu Ala Gly Ile Val
- Ala Arg Glu Phe Gly Val Asn Val Phe Ile Val Ser Val Ala Lys Pro 290 295 300
- Ile Pro Glu Glu Leu Gly Met Val Gln Asp Val Thr Phe Val Asp Lys
- Ala Val Cys Arg Asn Asn Gly Phe Phe Ser Tyr His Met Pro Asn Trp 325 330 335
- Phe Gly Thr Thr Lys Tyr Val Lys Pro Leu Val Gln Lys Leu Cys Thr 340 345 350
- His Glu Gln Met Met Cys Ser Lys Thr Cys Tyr Asn Ser Val Asn Ile 355 360 365
- Ala Phe Leu Ile Asp Gly Ser Ser Ser Val Gly Asp Ser Asn Phe Arg 370 375 380
- Leu Met Leu Glu Phe Val Ser Asn Ile Ala Lys Thr Phe Glu Ile Ser 385 390 395 400
- Asp Ile Gly Ala Lys Ile Ala Ala Val Gln Phe Thr Tyr Asp Gln Arg
- Thr Glu Phe Ser Phe Thr Asp Tyr Ser Thr Lys Glu Asn Val Leu Ala
  420 425 430
- Val Ile Arg Asn Ile Arg Tyr Met Ser Gly Gly Thr Ala Thr Gly Asp 435 440 445
- Ala Ile Ser Phe Thr Val Arg Asn Val Phe Gly Pro Ile Arg Glu Ser 450 455 460
- Pro Asn Lys Asn Phe Leu Val Ile Val Thr Asp Gly Gln Ser Tyr Asp 465 470 475 480
- Asp Val Gln Gly Pro Ala Ala Ala Ala His Asp Ala Gly Ile Thr Ile 485 490 495
- Phe Ser Val Gly Val Ala Trp Ala Pro Leu Asp Asp Leu Lys Asp Met 500 505 510
- Ala Ser Lys Pro Lys Glu Ser His Ala Phe Phe Thr Arg Glu Phe Thr 515 520 525
- Gly Leu Glu Pro Ile Val Ser Asp Val Ile Arg Gly Ile Cys Arg Asp 530 535 540

Phe Leu Glu Ser Gln Gln 545 550	
<210> 228 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 228 tggtctcgca caccgatc	18
<210> 229 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	1
<400> 229 ctgctgtcca caggggag	18
<210> 230 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 230 ccttgaagca tactgctc	18
<210> 231 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 231 gagatagcaa tttccgcc	18
∠21N\ 232	

```
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 232
                                                                   18
ttcctcaaga gggcagcc
<210> 233
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 233
                                                                   24
cttggcacca atgtccgaga tttc
<210> 234
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 234
gctctgagga aggtgacgcg cggggcctcc gaacccttgg ccttg
                                                                   45
<210> 235
 <211> 2586
 <212> DNA
 <213> Homo sapiens
 <400> 235
 cgccgcgctc ccgcacccgc ggcccgccca ccgcgccgct cccgcatctg cacccgcagc 60
ccggcggcct cccggcggga gcgagcagat ccagtccggc ccgcagcgca actcggtcca 120
gtcggggcgg cggctgcggg cgcagagcgg agatgcagcg gcttggggcc accetgctgt 180
geetgetget ggeggeggeg gteeceaegg ceeeeggee egeteegaeg gegaeetegg 240
 ctccagtcaa gcccggcccg gctctcagct acccgcagga ggaggccacc ctcaatgaga 300
 tgttccgcga ggttgaggaa ctgatggagg acacgcagca caaattgcgc agcgcggtgg 360
 aagagatgga ggcagaagaa gctgctgcta aagcatcatc agaagtgaac ctggcaaact 420
 tacctcccag ctatcacaat gagaccaaca cagacacgaa ggttggaaat aataccatcc 480
 atgtgcaccg agaaattcac aagataacca acaaccagac tggacaaatg gtcttttcag 540
 agacagttat cacatctgtg ggagacgaag aaggcagaag gagccacgag tgcatcatcg 600
 acgaggactg tgggcccagc atgtactgcc agtttgccag cttccagtac acctgccagc 660
 catgccgggg ccagaggatg ctctgcaccc gggacagtga gtgctgtgga gaccagctgt 720
```

```
gtgtctgggg tcactgcacc aaaatggcca ccaggggcag caatgggacc atctgtgaca 780
accagaggga ctgccagccg gggctgtgct gtgccttcca gagaggcctg ctgttccctg 840
tgtgcacacc cetgceegtg gagggcgage tttgccatga cecegceage eggettetgg 900
accteateae etgggageta gageetgatg gageettgga eegatgeeet tgtgceagtg 960
gcctcctctg ccagccccac agccacagcc tggtgtatgt gtgcaagccg accttcgtgg 1020
ggagccgtga ccaagatggg gagatcctgc tgcccagaga ggtccccgat gagtatgaag 1080
ttggcagctt catggaggag gtgcgccagg agctggagga cctggagagg agcctgactq 1140
aagaqatggc gctgggggag cctgcggctg ccgccqctqc actgctggga ggggaagaga 1200
tttagatctg gaccaggctg tgggtagatg tgcaatagaa atagctaatt tatttcccca 1260
qqtqtqtqct ttaqqcqtqq qctqaccaqq cttcttccta catcttcttc ccaqtaaqtt 1320
teccetetgg ettgacagea tgaggtgttg tgeatttgtt eageteecee aggetgttet 1380
ccaggcttca cagtctggtg cttgggagag tcaggcaggg ttaaactgca ggagcagttt 1440
gccacccctg tccagattat tggctgcttt gcctctacca gttggcagac agccgtttgt 1500
tctacatggc tttgataatt qtttgaqqqq agqaqatgqa aacaatgtgg agtctccctc 1560
tgattggttt tggggaaatg tggagaagag tgccctgctt tgcaaacatc aacctggcaa 1620
aaatqcaaca aatqaatttt ccacqcaqtt ctttccatqq qcataqqtaa qctqtqcctt 1680
cagetgttgc agatgaaatg ttetgtteac cetgeattac atgtgtttat teatecagea 1740
gtgttgctca gctcctacct ctgtgccagg gcagcatttt catatccaag atcaattccc 1800
teteteagea cageetqqqq aqqqqteat tqtteteete qtecateaqq qateteagaq 1860
gctcagagac tgcaagctgc ttgcccaagt cacacagcta gtgaagacca gagcagtttc 1920
atctggttgt gactctaagc tcagtgctct ctccactacc ccacaccagc cttggtgcca 1980
ccaaaagtgc tccccaaaag gaaggagaat gggatttttc ttgaggcatg cacatctgga 2040
attaaggtca aactaattct cacatccctc taaaagtaaa ctactgttag gaacagcagt 2100
gttctcacag tgtggggcag ccgtccttct aatgaagaca atgatattga cactgtccct 2160
ctttggcagt tgcattagta actttgaaag gtatatgact gagcgtagca tacaggttaa 2220
cctgcagaaa caqtacttaq gtaattgtaq qqcqaqqatt ataaatgaaa tttgcaaaat 2280
cacttagcag caactgaaga caattatcaa ccacgtggag aaaatcaaac cgagcagggc 2340
tgtgtgaaac atggttgtaa tatgcgactg cgaacactga actctacgcc actccacaaa 2400
tgatgttttc aggtgtcatg gactgttgcc accatgtatt catccagagt tcttaaagtt 2460
taaagttgca catgattgta taagcatgct ttctttgagt tttaaaattat gtataaacat 2520
aaaaaa
                                                                2586
<210> 236
<211> 350
<212> PRT
<213> Homo sapiens
<400> 236
Met Gln Arg Leu Gly Ala Thr Leu Leu Cys Leu Leu Leu Ala Ala Ala
Val Pro Thr Ala Pro Ala Pro Ala Pro Thr Ala Thr Ser Ala Pro Val
Lys Pro Gly Pro Ala Leu Ser Tyr Pro Gln Glu Glu Ala Thr Leu Asn
        35
                                                45
Glu Met Phe Arg Glu Val Glu Glu Leu Met Glu Asp Thr Gln His Lys
                        55
```

Leu Arg Ser Ala Val Glu Glu Met Glu Ala Glu Glu Ala Ala Lys

80

70

Ala Ser Ser Glu Val Asn Leu Ala Asn Leu Pro Pro Ser Tyr His Asn
85 90 95

Glu Thr Asn Thr Asp Thr Lys Val Gly Asn Asn Thr Ile His Val His
100 105 110

Arg Glu Ile His Lys Ile Thr Asn Asn Gln Thr Gly Gln Met Val Phe 115 120 125

Ser Glu Thr Val Ile Thr Ser Val Gly Asp Glu Glu Gly Arg Arg Ser 130 135 140

His Glu Cys Ile Ile Asp Glu Asp Cys Gly Pro Ser Met Tyr Cys Gln 145 150 155 160

Phe Ala Ser Phe Gln Tyr Thr Cys Gln Pro Cys Arg Gly Gln Arg Met 165 170 175

Leu Cys Thr Arg Asp Ser Glu Cys Cys Gly Asp Gln Leu Cys Val Trp 180 185 190

Gly His Cys Thr Lys Met Ala Thr Arg Gly Ser Asn Gly Thr Ile Cys 195 200 205

Asp Asn Gln Arg Asp Cys Gln Pro Gly Leu Cys Cys Ala Phe Gln Arg 210 215 220

Gly Leu Leu Phe Pro Val Cys Thr Pro Leu Pro Val Glu Gly Glu Leu 225 230 235 240

Cys His Asp Pro Ala Ser Arg Leu Leu Asp Leu Ile Thr Trp Glu Leu 245 250 255

Glu Pro Asp Gly Ala Leu Asp Arg Cys Pro Cys Ala Ser Gly Leu Leu 260 265 270

Cys Gln Pro His Ser His Ser Leu Val Tyr Val Cys Lys Pro Thr Phe 275 280 285

Val Gly Ser Arg Asp Gln Asp Gly Glu Ile Leu Leu Pro Arg Glu Val 290 295 300

Pro Asp Glu Tyr Glu Val Gly Ser Phe Met Glu Glu Val Arg Gln Glu 305 310 315

Leu Glu Asp Leu Glu Arg Ser Leu Thr Glu Glu Met Ala Leu Gly Glu
325 330 335

Pro Ala Ala Ala Ala Ala Leu Leu Gly Gly Glu Glu Ile 340 345 350

<211> 17 <212> DNA <213> Artificial Sequence	
<220> <223> Synthetic oligonucleotide probe	
<400> 237 ggagctgcac cccttgc	17
<210> 238 <211> 49 <212> DNA <213> Artificial Sequence	
<220> <223> Synthetic Oligonucleotide Probe	
<400> 238 ggaggactgt gccaccatga gagactette aaacccaagg caaaattgg	49
<210> 239 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> Synthetic Oligonucleotide Probe	
<400> 239 gcagagegga gatgeagegg ettg	24
<210> 240 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Synthetic Oligonucleotide Probe	
<400> 240 ttggcagett catggagg	18
<210> 241 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Synthetic Oligonucleotide Probe	
<400> 241 cctgggcaaa aatqcaac	18

```
<210> 242
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 242
ctccagctcc tggcgcacct cctc
                                                                    24
<210> 243
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 243
ggctctcagc taccgcgcag gagcgaggcc accctcaatg agatg
                                                                    45
<210> 244
<211> 3679
<212> DNA
<213> Homo Sapien
<400> 244
 aaggaggctg ggaggaaaga ggtaagaaag gttagagaac ctacctcaca 50
 tctctctggg ctcagaagga ctctgaagat aacaataatt tcagcccatc 100
 cacteteett eeeteecaaa cacacatgtg catgtacaca cacacataca 150
 cacacataca cetteetete etteaetgaa gaeteaeagt caeteaetet 200
 gtgagcaggt catagaaaag gacactaaag ccttaaggac aggcctggcc 250
 attacctctg cagctccttt ggcttgttga gtcaaaaaac atgggagggg 300
 ccaggcacgg tgactcacac ctgtaatccc agcattttgg gagaccgagg 350
 tgagcagatc acttgaggtc aggagttcga gaccagcctg gccaacatgg 400
 agaaaccccc atctctacta aaaatacaaa aattagccag gagtggtggc 450
 aggtgcctgt aatcccagct actcaggtgg ctgagccagg agaatcgctt 500
 gaatccagga ggcggaggat gcagtcagct gagtgcaccg ctgcactcca 550
 gcctgggtga cagaatgaga ctctgtctca aacaaacaaa cacgggagga 600
```

ggggtagata ctgcttctct gcaacctcct taactctgca tcctcttctt 650 ccagggctgc ccctgatggg gcctggcaat gactgagcag gcccagcccc 700 agaggacaag gaagagaagg catattgagg agggcaagaa gtgacgcccg 750 gtgtagaatg actgccctgg gagggtggtt ccttgggccc tggcagggtt 800 gctgaccctt accctgcaaa acacaaagag caggactcca gactctcctt 850 gtgaatggtc ccctgccctg cagctccacc atgaggcttc tcgtggcccc 900 actettgeta gettgggtgg etggtgeeae tgeeaetgtg eeegtggtae 950 cctggcatgt tccctgcccc cctcagtgtg cctgccagat ccggccctgg 1000 tatacgcccc gctcgtccta ccgcgaggct accactgtgg actgcaatga 1050 cctattcctg acggcagtcc ccccggcact ccccgcaggc acacagaccc 1100 tgctcctgca gagcaacagc attgtccgtg tggaccagag tgagctgggc 1150 tacctggcca atctcacaga gctggacctg tcccagaaca gcttttcgga 1200 tgcccgagac tgtgatttcc atgccctgcc ccagctgctg agcctgcacc 1250 tagaggagaa ccagctgacc cggctggagg accacagctt tgcagggctg 1300 gccagcctac aggaactcta tctcaaccac aaccagctct accgcatcgc 1350 ccccagggcc ttttctggcc tcagcaactt gctgcggctg cacctcaact 1400 ccaacctcct gagggccatt gacagecgct ggtttgaaat getgeecaac 1450 ttggagatac tcatgattgg cggcaacaag gtagatgcca tcctggacat 1500 gaacttccgg cccctggcca acctgcgtag cctggtgcta gcaggcatga 1550 acetgeggga gateteegae tatgeeetgg aggggetgea aageetggag 1600 agectetect tetatgacaa ceagetggee egggtgeeca ggegggeact 1650 ggaacaggtg cccgggctca agttcctaga cctcaacaag aacccgctcc 1700 agegggtagg geegggggae tttgccaaca tgetgeaeet taaggagetg 1750 ggactgaaca acatggagga getggtetee ategacaagt ttgeeetggt 1800 gaacctcccc gagctgacca agctggacat caccaataac ccacggctgt 1850 cetteateca eccegegee ttecaceace tgececagat ggagaceete 1900 atgctcaaca acaacgctct cagtgccttg caccagcaga cggtggagtc 1950 cctgcccaac ctgcaggagg taggtctcca cggcaacccc atccgctgtg 2000 actgtgtcat ccgctgggcc aatgccacgg gcacccgtgt ccgcttcatc 2050 gageegeaat ceaccetgtg tgeggageet eeggaeetee agegeeteee 2100 ggtccgtgag gtgcccttcc gggagatgac ggaccactgt ttgcccctca 2150 tctccccacg aagcttcccc ccaagcctcc aggtagccag tggagagage 2200 atggtgctgc attgccgggc actggccgaa cccgaacccg agatctactg 2250 gqtcactcca gctgggcttc gactgacacc tgcccatgca ggcaggaggt 2300 accgggtgta ccccgagggg accctggagc tgcggagggt gacagcagaa 2350 gaggcagggc tatacacctg tgtggcccag aacctggtgg gggctgacac 2400 taaqacggtt agtgtggttg tgggccgtgc tctcctccag ccaggcaggg 2450 acgaaggaca ggggctggag ctccgggtgc aggagaccca cccctatcac 2500 atectgetat cttgggtcac cccacccaac acagtgtcca ccaacctcac 2550 ctggtccagt gcctcctccc tccggggcca gggggccaca gctctggccc 2600 gcctgcctcg gggaacccac agctacaaca ttacccgcct ccttcaggcc 2650 acggagtact gggcctgcct gcaagtggcc tttgctgatg cccacaccca 2700 gttggcttgt gtatgggcca ggaccaaaga ggccacttct tgccacagag 2750 ccttagggga tcgtcctggg ctcattgcca tcctggctct cgctgtcctt 2800 ctcctggcag ctgggctagc ggcccacctt ggcacaggcc aacccaggaa 2850 gggtgtgggt gggaggegge etetecetee ageetggget ttetgggget 2900 ggagtgcccc ttctgtccgg gttgtgtctg ctcccctcgt cctgccctgg 2950 aatccaggga ggaagctgcc cagatcctca gaaggggaga cactgttgcc 3000 accattgtct caaaattctt gaagctcagc ctgttctcag cagtagagaa 3050 atcactagga ctacttttta ccaaaaagaga agcagtctgg gccagatgcc 3100 ctgccaggaa agggacatgg acccacgtgc ttgaggcctg gcagctgggc 3150 caagacagat ggggctttgt ggccctgggg gtgcttctgc agccttgaaa 3200 aagttgeeet taeeteetag ggteaeetet getgeeatte tgaggaaeat 3250 ctccaaggaa caggaggac tttggctaga gcetectgce tccccatctt 3300 ctctctgccc agaggctcct gggcctggct tggctgtccc ctacctgtgt 3350 ccccgggctg caccccttcc tcttctcttt ctctgtacag tctcagttgc 3400 ttgctcttgt gcctcctggg caagggctga aggaggccac tccatctcac 3450 ctcggggggc tgccctcaat gtgggagtga ccccagccag atctgaagga 3500 catttgggag agggatgcc aggaacgcct catctcagca gcctgggctc 3550 ggcattccga agctgacttt ctataggcaa ttttgtacct ttgtggagaa 3600 atgtgtcacc tcccccaacc cgattcactc ttttctcctg ttttgtaaaa 3650 aataaaaaata aataataaca ataaaaaaa 3679

<210> 245

<211> 713

<212> PRT

<213> Homo Sapien

<400> 245

Met Arg Leu Leu Val Ala Pro Leu Leu Ala Trp Val Ala Gly
1 5 10 15

Ala Thr Ala Thr Val Pro Val Val Pro Trp His Val Pro Cys Pro  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Pro Gln Cys Ala Cys Gln Ile Arg Pro Trp Tyr Thr Pro Arg Ser 35 40 45

Ser Tyr Arg Glu Ala Thr Thr Val Asp Cys Asn Asp Leu Phe Leu 50 55 60

Thr Ala Val Pro Pro Ala Leu Pro Ala Gly Thr Gln Thr Leu Leu 65 70 75

Leu Gln Ser Asn Ser Ile Val Arg Val Asp Gln Ser Glu Leu Gly 80 85 90

Tyr Leu Ala Asn Leu Thr Glu Leu Asp Leu Ser Gln Asn Ser Phe 95 100 105

Ser Asp Ala Arg Asp Cys Asp Phe His Ala Leu Pro Gln Leu Leu 110 115 120

Ser Leu His Leu Glu Glu Asn Gln Leu Thr Arg Leu Glu Asp His
125 130 130

Ser Phe Ala Gly Leu Ala Ser Leu Gln Glu Leu Tyr Leu Asn His 140 145 150

Asn	Gln	Leu	Tyr	Arg 155	Ile	Ala	Pro	Arg	Ala 160	Phe	Ser	Gly	Leu	Ser 165
Asn	Leu	Leu	Arg	Leu 170	His	Leu	Asn	Ser	Asn 175	Leu	Leu	Arg	Ala	Ile 180
Asp	Ser	Arg	Trp	Phe 185	Glu	Met	Leu	Pro	Asn 190	Leu	Glu	Ile	Leu	Met 195
Ile	Gly	Gly	Asn	Lys 200	Val	Asp	Ala	Ile	Leu 205	Asp	Met	Asn	Phe	Arg 210
Pro	Leu	Ala	Asn	Leu 215	Arg	Ser	Leu	Val	Leu 220	Ala	Gly	Met	Asn	Leu 225
Arg	Glu	Ile	Ser	Asp 230	Tyr	Ala	Leu	Glu	Gly 235	Leu	Gln	Ser	Leu	Glu 240
Ser	Leu	Ser	Phe	Tyr 245	Asp	Asn	Gln	Leu	Ala 250	Arg	Val	Pro	Arg	Arg 255
Ala	Leu	Glu	Gln	Val 260	Pro	Gly	Leu	Lys	Phe 265	Leu	Asp	Leu	Asn	Lys 270
Asn	Pro	Leu	Gln	Arg 275	Val	Gly	Pro	Gly	Asp 280	Phe	Ala	Asn	Met	Leu 285
His	Leu	Lys	Glu	Leu 290	Gly	Leu	Asn	Asn	Met 295	Glu	Glu	Leu	Val	Ser 300
Ile	Asp	Lys	Phe	Ala 305	Leu	Val	Asn	Leu	Pro 310	Glu	Leu	Thr	Lys	Leu 315
Asp	Ile	Thr	Asn	Asn 320	Pro	Arg	Leu	Ser	Phe 325	Ile	His	Pro	Arg	Ala 330
Phe	His	His	Leu	Pro 335	Gln	Met	Glu	Thr	Leu 340	Met	Leu	Asn	Asn	Asn 345
Ala	Leu	Ser	Ala	Leu 350	His	Gln	Gln	Thr	Val 355	Glu	Ser	Leu	Pro	Asn 360
Leu	Gln	Glu	Val	Gly 365	Leu	His	Gly	Asn	Pro 370	Ile	Arg	Cys	Asp	Cys 375
Val	Ile	Arg	Trp	Ala 380	Asn	Ala	Thr	Gly	Thr 385	Arg	Val	Arg	Phe	Ile 390
Glu	Pro	Gln	Ser	Thr 395	Leu	Cys	Ala	Glu	Pro 400	Pro	Asp	Leu	Gln	Arg 405
Leu	Pro	Val	Arg	Glu	Val	Pro	Phe	Arg	Glu	Met	Thr	Asp	His	Cys

				410					415					420
Leu	Pro	Leu	Ile	Ser 425	Pro	Arg	Ser	Phe	Pro 430	Pro	Ser	Leu	Gln	Val 435
Ala	Ser	Gly	Glu	Ser 440	Met	Val	Leu	His	Cys 445	Arg	Ala	Leu	Ala	Glu 450
Pro	Glu	Pro	Glu	Ile 455	Tyr	Trp	Val	Thr	Pro 460	Ala	Gly	Leu	Arg	Leu 465
Thr	Pro	Ala	His	Ala 470	Gly	Arg	Arg	Tyr	Arg 475	Val	Tyr	Pro	Glu	Gly 480
Thr	Leu	Glu	Leu	Arg 485	Arg	Val	Thr	Ala	Glu 490	Glu	Ala	Gly	Leu	Tyr 495
Thr	Cys	Val	Ala	Gln 500	Asn	Leu	Val	Gly	Ala 505	Asp	Thr	Lys	Thr	Val 510
Ser	Val	Val	Val	Gly 515	Arg	Ala	Leu	Leu	Gln 520	Pro	Gly	Arg	Asp	Glu 525
Gly	Gln	Gly	Leu	Glu 530	Leu	Arg	Val	Gln	Glu 535	Thr	His	Pro	Tyr	His 540
Ile	Leu	Leu	Ser	Trp 545	Val	Thr	Pro	Pro	Asn 550	Thr	Val	Ser	Thr	Asn 555
Leu	Thr	Trp	Ser	Ser 560	Ala	Ser	Ser	Leu	Arg 565	Gly	Gln	Gly	Ala	Thr 570
Ala	Leu	Ala	Arg	Leu 575	Pro	Arg	Gly	Thr	His 580	Ser	Tyr	Asn	Ile	Thr 585
Arg	Leu	Leu	Gln	Ala 590	Thr	Glu	Tyr	Trp	Ala 595	Cys	Leu	Gln	Val	Ala 600
Phe	Ala	Asp	Ala	His 605	Thr	Gln	Leu	Ala	Cys 610	Val	Trp	Ala	Arg	Thr 615
Lys	Glu	Ala	Thr	Ser 620	Cys	His	Arg	Ala	Leu 625	Gly	Asp	Arg	Pro	Gly 630
Leu	Ile	Ala	Ile	Leu 635	Ala	Leu	Ala	Val	Leu 640	Leu	Leu	Ala	Ala	Gly 645
Leu	Ala	Ala	His	Leu 650	Gly	Thr	Gly	Gln	Pro 655	Arg	Lys	Gly	Val	Gly 660
Gly	Arg	Arg	Pro	Leu 665	Pro	Pro	Ala	Trp	Ala	Phe	Trp	Gly	Trp	Ser

```
Ala Pro Ser Val Arg Val Val Ser Ala Pro Leu Val Leu Pro Trp
                 680
                                      685
                                                          690
 Asn Pro Gly Arg Lys Leu Pro Arg Ser Ser Glu Gly Glu Thr Leu
                                     700
 Leu Pro Pro Leu Ser Gln Asn Ser
                 710
<210> 246
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 246
aacaaggtaa gatgccatcc tg 22
<210> 247
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 247
aaacttgtcg atggagacca gctc 24
<210> 248
<211> 45
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 248
 aggggctgca aagcctggag agcctctcct tctatgacaa ccagc 45
<210> 249
<211> 3401
<212> DNA
<213> Homo Sapien
<400> 249
 gcaagccaag gcgctgtttg agaaggtgaa gaagttccgg acccatgtgg 50
 aggagggga cattgtgtac cgcctctaca tgcggcagac catcatcaag 100
```

gtgatcaagt tcatcctcat catctgctac accgtctact acgtgcacaa 150

catcaagttc gacgtggact gcaccgtgga cattgagagc ctgacgggct 200 accgcaccta ccgctgtgcc caccccctgg ccacactctt caagatcctg 250 gegteettet acateageet agteatette taeggeetea tetgeatgta 300 cacactgtgg tggatgctac ggcgctccct caagaagtac tcgtttgagt 350 cgatccgtga ggagagcagc tacagcgaca tccccgacgt caagaacgac 400 ttcgccttca tgctgcacct cattgaccaa tacgacccgc tctactccaa 450 gcgcttcgcc gtcttcctgt cggaggtgag tgagaacaag ctgcggcagc 500 tgaacctcaa caacgagtgg acgctggaca agctccggca gcggctcacc 550 aagaacgcgc aggacaagct ggagctgcac ctgttcatgc tcagtggcat 600 ccctgacact gtgtttgacc tggtggagct ggaggtcctc aagctggagc 650 tgatccccga cgtgaccatc ccgcccagca ttgcccagct cacgggcctc 700 aaggagetgt ggetetacea caeageggee aagattgaag egeetgeget 750 ggccttcctg cgcgagaacc tgcgggcgct gcacatcaag ttcaccgaca 800 tcaaggagat cccgctgtgg atctatagcc tgaagacact ggaggagctg 850 cacctgacgg gcaacctgag cgcggagaac aaccgctaca tcgtcatcga 900 cgggctgcgg gagctcaaac gcctcaaggt gctgcggctc aagagcaacc 950 taagcaagct gccacaggtg gtcacagatg tgggcgtgca cctgcagaag 1000 ctgtccatca acaatgaggg caccaagctc atcgtcctca acagcctcaa 1050 gaagatggcg aacctgactg agctggagct gatccgctgc gacctggagc 1100 gcatccccca ctccatcttc agcctccaca acctgcagga gattgacctc 1150 aaggacaaca acctcaagac catcgaggag atcatcagct tccagcacct 1200 gcaccgcctc acctgcctta agctgtggta caaccacatc gcctacatcc 1250 ccatccagat cggcaacctc accaacctgg agegceteta cctgaaccgc 1300 aacaagatcg agaagatccc cacccagctc ttctactgcc gcaagctgcg 1350 ctacctggac ctcagccaca acaacctgac cttcctccct gccgacatcg 1400 gcctcctgca gaacctccag aacctagcca tcacggccaa ccggatcgag 1450 acgetecete eggagetett ceagtgeegg aagetgeggg eeetgeacet 1500 gggcaacaac gtgctgcagt cactgccctc cagggtgggc gagctgacca 1550 acctgacgca gatcgagctg cggggcaacc ggctggagtg cctgcctgtg 1600 gagetgggeg agtgeecaet geteaagege ageggettgg tggtggagga 1650 ggacctgttc aacacactgc cacccgaggt gaaggagcgg ctgtggaggg 1700 ctgacaagga gcaggcctga gcgaggccgg cccagcacag caagcagcag 1750 gaccgctgcc cagtcctcag gcccggaggg gcaggcctag cttctcccag 1800 aacteeegga cageeaggac ageetegegg etgggeagga geetggggee 1850 gcttgtgagt caggccagag cgagaggaca gtatctgtgg ggctggcccc 1900 ttttctccct ctgagactca cgtcccccag ggcaagtgct tgtggaggag 1950 agcaagtete aagagegeag tatttggata atcagggtet cetecetgga 2000 ggccagetet gecccagggg etgagetgee accagaggte etgggaeeet 2050 cactttagtt cttggtattt atttttctcc atctcccacc tccttcatcc 2100 agataactta tacattccca agaaagttca gcccagatgg aaggtgttca 2150 gggaaaggtg ggctgccttt tccccttgtc cttatttagc gatgccgccg 2200 ggcatttaac acccacctgg acttcagcag agtggtccgg ggcgaaccag 2250 ccatgggacg gtcacccagc agtgccgggc tgggctctgc ggtgcggtcc 2300 acgggagage aggectecag etggaaagge caggeetgga gettgeetet 2350 tcagtttttg tggcagtttt agttttttgt ttttttttt tttaatcaaa 2400 aaacaatttt ttttaaaaaa aagctttgaa aatggatggt ttgggtatta 2450 aaaagaaaaa aaaaacttaa aaaaaaaaag acactaacgg ccagtgagtt 2500 ggagteteag ggeagggtgg eagttteeet tgageaaage ageeagaegt 2550 tgaactgtgt ttcctttccc tgggcgcagg gtgcagggtg tcttccggat 2600 etggtgtgae ettggteeag gagttetatt tgtteetggg gagggaggtt 2650 tttttgtttg ttttttgggt ttttttggtg tcttgttttc tttctcctcc 2700 atgtgtcttg gcaggcactc atttctgtgg ctgtcggcca gagggaatgt 2750 tctggagctg ccaaggaggg aggagactcg ggttggctaa tccccggatg 2800 cgcacagtgt taaggagcca agaggagcca cttcgcccag actttgttc 2900 cccacctcct geggcatggg tgtgtccagt gccaccgctg gcctccgctg 2950 cttccatcag ccctgtcgcc acctggtcct tcatgaagag cagacactta 3000 gaggctggtc gggaatgggg aggtcgccc tgggagggca ggcgttggtt 3050 ccaagccggt tcccgtcct ggcgcctgga gtgcaccag cccagtcggc 3100 acctggtggc tggaagccaa cctgctttag atcactcggg tcccacctt 3150 agaagggtcc ccgccttaga tcaatcacgt ggacactaag gcacgtttta 3250 ttttctgcgt cgtgtcattg gatataatcc tcagaaataa tgcacactag 3300 cctctgacaa ccatgaagca aaaatccgtt acatggggt ctgaacctag 3300 aacctggtcaa ccatgaagca aaaatccgtt acatggggt ctgaacctag 3300 cctctgacaa ccatgaagca aaaatccgtt acatggggt ctgaacctag 3300 aa 3401

<210> 250

<211> 546

<212> PRT

<213> Homo Sapien

<400> 250

Met Arg Gln Thr Ile Ile Lys Val Ile Lys Phe Ile Leu Ile Ile 1 5 10 15

Cys Tyr Thr Val Tyr Tyr Val His Asn Ile Lys Phe Asp Val Asp 20 25 30

Cys Thr Val Asp Ile Glu Ser Leu Thr Gly Tyr Arg Thr Tyr Arg 35 40 45

Cys Ala His Pro Leu Ala Thr Leu Phe Lys Ile Leu Ala Ser Phe 50 55 60

Tyr Ile Ser Leu Val Ile Phe Tyr Gly Leu Ile Cys Met Tyr Thr
65 70 75

Leu Trp Trp Met Leu Arg Arg Ser Leu Lys Lys Tyr Ser Phe Glu  $80 \,$  85  $\,$  90

Ser Ile Arg Glu Glu Ser Ser Tyr Ser Asp Ile Pro Asp Val Lys

				95					100					105
Asn	Asp	Phe	Ala	Phe 110	Met	Leu	His	Leu	Ile 115	Asp	Gln	Tyr	Asp	Pro 120
Leu	Tyr	Ser	Lys	Arg 125	Phe	Ala	Val	Phe	Leu 130	Ser	Glu	Val	Ser	Glu 135
Asn	Lys	Leu	Arg	Gln 140	Leu	Asn	Leu	Asn	Asn 145	Glu	Trp	Thr	Leu	Asp 150
Lys	Leu	Arg	Gln	Arg 155	Leu	Thr	Lys	Asn	Ala 160	Gln	Asp	Lys	Leu	Glu 165
Leu	His	Leu	Phe	Met 170	Leu	Ser	Gly	Ile	Pro 175	Asp	Thr	Val	Phe	Asp 180
Leu	Val	Glu	Leu	Glu 185	Val	Leu	Lys	Leu	Glu 190	Leu	Ile	Pro	Asp	Val 195
Thr	Ile	Pro	Pro	Ser 200	Ile	Ala	Gln	Leu	Thr 205	Gly	Leu	Lys	Glu	Leu 210
Trp	Leu	Tyr	His	Thr 215	Ala	Ala	Lys	Ile	Glu 220	Ala	Pro	Ala	Leu	Ala 225
Phe	Leu	Arg	Glu	Asn 230	Leu	Arg	Ala	Leu	His 235	Ile	Lys	Phe	Thr	Asp 240
Ile	Lys	Glu	Ile	Pro 245	Leu	Trp	Ile	Tyr	Ser 250	Leu	Lys	Thr	Leu	Glu 255
Glu	Leu	His	Leu	Thr 260	Gly	Asn	Leu	Ser	Ala 265	Glu	Asn	Asn	Arg	Tyr 270
Ile	Val	Ile	Asp	Gly 275	Leu	Arg	Glu	Leu	Lys 280	Arg	Leu	Lys	Val	Leu 285
Arg	Leu	Lys	Ser		Leu	Ser	Lys	Leu		Gln	Val	Val	Thr	300
Val	Gly	Val	His	290 Leu	Gln	Lys	Leu	Ser	295 Ile	Asn	Asn	Glu	Gly	
	_			305		-			310				_	315
Lys	Leu	Ile	Val	Leu 320	Asn	Ser	Leu	Lys	Lys 325	Met	Ala	Asn	Leu	Thr 330
Glu	Leu	Glu	Leu	Ile 335	Arg	Cys	Asp	Leu	Glu 340	Arg	Ile	Pro	His	Ser 345
Ile	Phe	Ser	Leu	His 350	Asn	Leu	Gln	Glu	Ile 355	Asp	Leu	Lys	Asp	Asn 360

<211> 24

Asn Leu Lys Thr Ile Glu Glu Ile Ile Ser Phe Gln His Leu His Arg Leu Thr Cys Leu Lys Leu Trp Tyr Asn His Ile Ala Tyr Ile 380 385 Pro Ile Gln Ile Gly Asn Leu Thr Asn Leu Glu Arg Leu Tyr Leu Asn Arg Asn Lys Ile Glu Lys Ile Pro Thr Gln Leu Phe Tyr Cys Arg Lys Leu Arg Tyr Leu Asp Leu Ser His Asn Asn Leu Thr Phe 430 425 Leu Pro Ala Asp Ile Gly Leu Leu Gln Asn Leu Gln Asn Leu Ala Ile Thr Ala Asn Arg Ile Glu Thr Leu Pro Pro Glu Leu Phe Gln 460 Cys Arg Lys Leu Arg Ala Leu His Leu Gly Asn Asn Val Leu Gln 470 475 480 Ser Leu Pro Ser Arg Val Gly Glu Leu Thr Asn Leu Thr Gln Ile 490 Glu Leu Arg Gly Asn Arg Leu Glu Cys Leu Pro Val Glu Leu Gly Glu Cys Pro Leu Leu Lys Arg Ser Gly Leu Val Val Glu Glu Asp 515 520 Leu Phe Asn Thr Leu Pro Pro Glu Val Lys Glu Arg Leu Trp Arg Ala Asp Lys Glu Gln Ala 545 <210> 251 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Synthetic Oligonucleotide Probe <400> 251 caacaatgag ggcaccaagc 20 <210> 252

```
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 252
gatggctagg ttctggaggt tctg 24
<210> 253
<211> 47
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 253
caacctgcag gagattgacc tcaaggacaa caacctcaag accatcg 47
<210> 254
<211> 1650
<212> DNA
<213> Homo Sapien
<400> 254
 gcctgttgct gatgctgccg tgcggtactt gtcatggagc tggcactgcg 50
 gegetetece gteeegeggt ggttgetget getgeegetg etgetgggee 100
 tgaacgcagg agctgtcatt gactggccca cagaggaggg caaggaagta 150
 tgggattatg tgacggtccg caaggatgcc tacatgttct ggtggctcta 200
 ttatgccacc aactectgca agaacttete agaactgccc etggtcatgt 250
 ggetteaggg eggteeagge ggttetagea etggatttgg aaactttgag 300
 gaaattgggc cccttgacag tgatctcaaa ccacggaaaa ccacctggct 350
 ccaggetgee agteteetat ttgtggataa teeegtggge actgggttea 400
 gttatgtgaa tggtagtggt gcctatgcca aggacctggc tatggtggct 450
 tcagacatga tggttctcct gaagaccttc ttcagttgcc acaaagaatt 500
 ccagacagtt ccattctaca ttttctcaga gtcctatgga ggaaaaatgg 550
 cagetggeat tggtetagag etttataagg ceatteageg agggaecate 600
 aagtgcaact ttgcgggggt tgccttgggt gattcctgga tctcccctgt 650
 tgattcggtg ctctcctggg gaccttacct gtacagcatg tctcttctcg 700
```

aagacaaagg tetggeagag gtgtetaagg ttgeagagea agtaetgaat 750 qccqtaaata aqqqqctcta caqaqaqcc acaqaqctqt qqqqqaaaqc 800 agaaatgatc attgaacaga acacagatgg ggtgaacttc tataacatct 850 taactaaaaq cactcccacg tctacaatgg agtcgagtct agaattcaca 900 cagagecace tagtttgtet ttgtcagege caegtgagae acctaeaaeg 950 agatqcctta aqccaqctca tqaatqqccc catcaqaaaq aaqctcaaaa 1000 ttattcctga ggatcaatcc tggggaggcc aggctaccaa cgtctttgtg 1050 aacatggagg aggacttcat gaagccagtc attagcattg tggacgagtt 1100 gctggaggca gggatcaacg tgacggtgta taatggacag ctggatctca 1150 tcgtagatac catgggtcag gaggcctggg tgcggaaact gaagtggcca 1200 gaactgccta aattcagtca gctgaagtgg aaggccctgt acagtgaccc 1250 taaatctttg gaaacatctg cttttgtcaa gtcctacaag aaccttgctt 1300 tctactggat tctgaaagct ggtcatatgg ttccttctga ccaaggggac 1350 atggctctga agatgatgag actggtgact cagcaagaat aggatggatg 1400 gggctggaga tgagctggtt tggccttggg gcacagagct gagctgaggc 1450 cgctgaagct gtaggaagcg ccattcttcc ctgtatctaa ctggggctgt 1500 gatcaagaag gttctgacca gcttctgcag aggataaaat cattgtctct 1550 ggaggcaatt tggaaattat ttctgcttct taaaaaaacc taagattttt 1600 taaaaaattg atttgttttg atcaaaataa aggatgataa tagatattaa 1650

<sup>&</sup>lt;210> 255

<sup>&</sup>lt;211> 452

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo Sapien

<sup>&</sup>lt;400> 255

Met Glu Leu Ala Leu Arg Arg Ser Pro Val Pro Arg Trp Leu Leu 1 5 10

Leu Leu Pro Leu Leu Gly Leu Asn Ala Gly Ala Val Ile Asp 20 25 30

Trp Pro Thr Glu Glu Gly Lys Glu Val Trp Asp Tyr Val Thr Val

Arg Lys Asp Ala Tyr Met Phe Trp Trp Leu Tyr Tyr Ala Thr Asn Ser Cys Lys Asn Phe Ser Glu Leu Pro Leu Val Met Trp Leu Gln 65 Gly Gly Pro Gly Gly Ser Ser Thr Gly Phe Gly Asn Phe Glu Glu Ile Gly Pro Leu Asp Ser Asp Leu Lys Pro Arg Lys Thr Thr Trp 100 Leu Gln Ala Ala Ser Leu Leu Phe Val Asp Asn Pro Val Gly Thr Gly Phe Ser Tyr Val Asn Gly Ser Gly Ala Tyr Ala Lys Asp Leu 130 Ala Met Val Ala Ser Asp Met Met Val Leu Leu Lys Thr Phe Phe Ser Cys His Lys Glu Phe Gln Thr Val Pro Phe Tyr Ile Phe Ser Glu Ser Tyr Gly Gly Lys Met Ala Ala Gly Ile Gly Leu Glu Leu Tyr Lys Ala Ile Gln Arg Gly Thr Ile Lys Cys Asn Phe Ala Gly 185 190 Val Ala Leu Gly Asp Ser Trp Ile Ser Pro Val Asp Ser Val Leu Ser Trp Gly Pro Tyr Leu Tyr Ser Met Ser Leu Leu Glu Asp Lys Gly Leu Ala Glu Val Ser Lys Val Ala Glu Gln Val Leu Asn Ala Val Asn Lys Gly Leu Tyr Arg Glu Ala Thr Glu Leu Trp Gly Lys Ala Glu Met Ile Ile Glu Gln Asn Thr Asp Gly Val Asn Phe Tyr 260 Asn Ile Leu Thr Lys Ser Thr Pro Thr Ser Thr Met Glu Ser Ser 275 Leu Glu Phe Thr Gln Ser His Leu Val Cys Leu Cys Gln Arg His Val Arg His Leu Gln Arg Asp Ala Leu Ser Gln Leu Met Asn Gly

				305					310					315
Pro	Ile	Arg	Lys	Lys 320	Leu	Lys	Ile	Ile	Pro 325	Glu	Asp	Gln	Ser	Trp 330
Gly	Gly	Gln	Ala	Thr 335	Asn	Val	Phe	Val	Asn 340	Met	Glu	Glu	Asp	Phe 345
Met	Lys	Pro	Val	Ile 350	Ser	Ile	Val	Asp	Glu 355	Leu	Leu	Glu	Ala	Gly 360
Ile	Asn	Val	Thr	Val 365	Tyr	Asn	Gly	Gln	Leu 370	Asp	Leu	Ile	Val	Asp 375
Thr	Met	Gly	Gln	Glu 380	Ala	Trp	Val	Arg	Lys 385	Leu	Lys	Trp	Pro	Glu 390
Leu	Pro	Lys	Phe	Ser 395	Gln	Leu	Lys	Trp	Lys 400	Ala	Leu	Tyr	Ser	Asp 405
Pro	Lys	Ser	Leu	Glu 410	Thr	Ser	Ala	Phe	Val 415	Lys	Ser	Tyr	Lys	Asn 420
Leu	Ala	Phe	Tyr	Trp 425	Ile	Leu	Lys	Ala	Gly 430	His	Met	Val	Pro	Ser 435
Asp	Gln	Gly	Asp	Met 440	Ala	Leu	Lys	Met	Met 445	Arg	Leu	Val	Thr	Gln 450
Gln	Glu													
<210>	256	5												
<211>	110	0.0												

<211> 1100

<212> DNA

<213> Homo Sapien

<400> 256

ggccgcggga gaggaggcca tgggcgcgcg cgggggcgctg ctgctggcgc 50 tgctgctggc tcgggctgga ctcaggaagc cggagtcgca ggaggcggcg 100 ccgttatcag gaccatgcgg ccgacgggtc atcacgtcgc gcatcgtggg 150 tggagaggac gccgaactcg ggcgttggcc gtggcagggg agcctgcgcc 200 tgtgggattc ccacgtatgc ggagtgagcc tgctcagcca ccgctgggca 250 ctcacggegg cgcactgctt tgaaacctat agtgacctta gtgatccctc 300 cgggtggatg gtccagtttg gccagctgac ttccatgcca tccttctgga 350 gcctgcaggc ctactacacc cgttacttcg tatcgaatat ctatctgagc 400 tgcacctgtc acctacacta accctatgac attgccttgg tgaagctgtc 500 ccacatttga gtttgagaac cggacagact gctgggtgac tggctggggg 550 tacatcaaag aggatgaggc actgccatct ccccacaccc tccaggaagt 600 tcaggtcgc atcataaaca actctatgtg caaccacct ttcctaagt 650 acagtttccg caaggacatc tttggagaca tggtttgtgc tggcaacgcc 700 caaggcggga aggatgcctg cttcggtgac tcaggtggac ccttggcctg 750 taacaagaat ggactgtggt atcagattg agtcgtgac tggggagtgg 800 gctgtggtcg gcccaatcgg cccggtgtct acaccaatat cagccaccac 850 tttgagtgga tccagaagct gatggccaa agggcatgt cccagcaga agggcccgg cactactct ttttccctct tctctgggc cccactccc 950 tgggggccggt ctgagcctac ctgagccca gcagcctggg gccactgcca 1000 agtcaggccc tggttcttct ctgtcttgtt tggtaataaa cacaatacaaaaa 1100

<400> 257

Met Gly Ala Arg Gly Ala Leu Leu Leu Ala Leu Leu Leu Ala Arg
1 5 10 15

Ala Gly Leu Arg Lys Pro Glu Ser Gln Glu Ala Ala Pro Leu Ser

20 25 30

Gly Pro Cys Gly Arg Arg Val Ile Thr Ser Arg Ile Val Gly Gly
35 40 45

Glu Asp Ala Glu Leu Gly Arg Trp Pro Trp Gln Gly Ser Leu Arg
50 55 60

Leu Trp Asp Ser His Val Cys Gly Val Ser Leu Leu Ser His Arg
65 70 75

Trp Ala Leu Thr Ala Ala His Cys Phe Glu Thr Tyr Ser Asp Leu 80 85 90

<sup>&</sup>lt;210> 257

<sup>&</sup>lt;211> 314

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo Sapien

Ser	Asp	Pro	Ser	Gly 95	Trp	Met	Val	Gln	Phe 100	Gly	Gln	Leu	Thr	Ser 105
Met	Pro	Ser	Phe	Trp 110	Ser	Leu	Gln	Ala	Tyr 115	Tyr	Thr	Arg	Tyr	Phe 120
Val	Ser	Asn	Ile	Tyr 125	Leu	Ser	Pro	Arg	Tyr 130	Leu	Gly	Asn	Ser	Pro 135
Tyr	Asp	Ile	Ala	Leu 140	Val	Lys	Leu	Ser	Ala 145	Pro	Val	Thr	Tyr	Thr 150
Lys	His	Ile	Gln	Pro 155	Ile	Cys	Leu	Gln	Ala 160	Ser	Thr	Phe	Glu	Phe 165
Glu	Asn	Arg	Thr	Asp 170	Cys	Trp	Val	Thr	Gly 175	Trp	Gly	Tyr	Ile	Lys 180
Glu	Asp	Glu	Ala	Leu 185	Pro	Ser	Pro	His	Thr 190	Leu	Gln	Glu	Val	Gln 195
Val	Ala	Ile	Ile	Asn 200	Asn	Ser	Met	Cys	Asn 205	His	Leu	Phe	Leu	Lys 210
Tyr	Ser	Phe	Arg	Lys 215	Asp	Ile	Phe	Gly	Asp 220	Met	Val	Cys	Ala	Gly 225
Asn	Ala	Gln	Gly	Gly 230	Lys	Asp	Ala	Cys	Phe 235	Gly	Asp	Ser	Gly	Gly 240
Pro	Leu	Ala	Cys	Asn 245	Lys	Asn	Gly	Leu	Trp 250	Tyr	Gln	Ile	Gly	Val 255
Val	Ser	Trp	Gly	Val 260	Gly	Cys	Gly	Arg	Pro 265	Asn	Arg	Pro	Gly	Val 270
Tyr	Thr	Asn	Ile	Ser 275	His	His	Phe	Glu	Trp 280	Ile	Gln	Lys	Leu	Met 285
Ala	Gln	Ser	Gly	Met 290	Ser	Gln	Pro	Asp	Pro 295	Ser	Trp	Pro	Leu	Leu 300
Phe	Phe	Pro	Leu	Leu 305	Trp	Ala	Leu	Pro	Leu 310	Leu	Gly	Pro	Val	

<210> 258

<211> 2427

<212> DNA

<213> Homo Sapien

<400> 258

cccacgcgtc cgcggacgcg tgggaagggc agaatgggac tccaagcctg 50

cctcctaggg ctctttgccc tcatcctctc tggcaaatgc agttacagcc 100 cggagcccga ccagcggagg acgctgcccc caggctgggt gtccctgggc 150 cgtgcggacc ctgaggaaga gctgagtctc acctttgccc tgagacagca 200 gaatgtggaa agactctcgg agctggtgca ggctgtgtcg gatcccagct 250 ctcctcaata cggaaaatac ctgaccctag agaatgtggc tgatctggtg 300 aggecatece cactgaceet ceaeaeggtg caaaaatgge tettggeage 350 cggagcccag aagtgccatt ctgtgatcac acaggacttt ctgacttgct 400 ggctgagcat ccgacaagca gagctgctgc tccctggggc tgagtttcat 450 cactatgtgg gaggacctac ggaaacccat gttgtaaggt ccccacatcc 500 ctaccagett ccacaggeet tggeceecca tgtggaettt gtggggggae 550 tgcaccgttt tcccccaaca tcatccctga ggcaacgtcc tgagccgcag 600 gtgacaggga ctgtaggcct gcatctgggg gtaaccccct ctgtgatccg 650 taagcgatac aacttgacct cacaagacgt gggctctggc accagcaata 700 acagecaage etgtgeecag tteetggage agtattteea tgaeteagae 750 ctggctcagt tcatgcgcct cttcggtggc aactttgcac atcaggcatc 800 ccagtctaga tgtgcagtac ctgatgagtg ctggtgccaa catctccacc 900 tgggtctaca gtagccctgg ccggcatgag ggacaggagc ccttcctgca 950 gtggctcatg ctgctcagta atgagtcagc cctgccacat gtgcatactg 1000 tgagctatgg agatgatgag gactccctca gcagcgccta catccagcgg 1050 gtcaacactg agctcatgaa ggctgccgct cggggtctca ccctgctctt 1100 cgcctcaggt gacagtgggg ccgggtgttg gtctgtctct ggaagacacc 1150 agtteegeee tacetteeet geeteeagee eetatgteae cacagtggga 1200 ggcacatect tecaggaace ttteeteate acaaatgaaa ttgttgaeta 1250 tatcagtggt ggtggcttca gcaatgtgtt cccacggcct tcataccagg 1300 aggaagetgt aacgaagtte etgageteta gececeacet gecaceatee 1350 agttacttca atgccagtgg ccgtgcctac ccagatgtgg ctgcactttc 1400

tgatggctac tgggtggtca gcaacagagt gcccattcca tgggtgtccg 1450 gaacctcggc ctctactcca gtgtttgggg ggatcctatc cttgatcaat 1500 gagcacagga tccttagtgg ccgccccct cttggctttc tcaacccaag 1550 gctctaccag cagcatgggg caggtctctt tgatgtaacc cgtggctgcc 1600 atgagtcctg tctggatgaa gaggtagagg gccagggttt ctgctctggt 1650 cetggetggg atcetgtaac aggetgggga acaccaactt cecagetttg 1700 ctgaagactc tactcaaccc ctgacccttt cctatcagga gagatggctt 1750 gtcccctgcc ctgaagctgg cagttcagtc ccttattctg ccctgttgga 1800 agccctgctg aaccctcaac tattgactgc tgcagacagc ttatctccct 1850 aaccctgaaa tgctgtgagc ttgacttgac tcccaaccct accatgctcc 1900 atcatactca ggtctcccta ctcctgcctt agattcctca ataagatgct 1950 gtaactagca ttttttgaat gcctctccct ccgcatctca tctttctctt 2000 ttcaatcagg cttttccaaa gggttgtata cagactctgt gcactatttc 2050 acttgatatt cattccccaa ttcactgcaa ggagacctct actgtcaccg 2100 tttactcttt cctaccctga catccagaaa caatggcctc cagtgcatac 2150 ttctcaatct ttgctttatg gcctttccat catagttgcc cactccctct 2200 cettaettag ettecaggte ttaacttete tgaetaetet tgtetteete 2250 totcatcaat ttotgottot toatggaatg otgacettea ttgctccatt 2300 tgtagatttt tgctcttctc agtttactca ttgtcccctg gaacaaatca 2350 ctgacatcta caaccattac catctcacta aataagactt tctatccaat 2400 aatgattgat acctcaaatg taaaaaa 2427

Met Gly Leu Gln Ala Cys Leu Leu Gly Leu Phe Ala Leu Ile Leu
1 5 10 15

Ser Gly Lys Cys Ser Tyr Ser Pro Glu Pro Asp Gln Arg Arg Thr

<sup>&</sup>lt;210> 259

<sup>&</sup>lt;211> 556

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo Sapien

<sup>&</sup>lt;400> 259

				20					25					30
Leu	Pro	Pro	Gly	Trp 35	Val	Ser	Leu	Gly	Arg 40	Ala	Asp	Pro	Glu	Glu 45
Glu	Leu	Ser	Leu	Thr 50	Phe	Ala	Leu	Arg	Gln 55	Gln	Asn	Val	Glu	Arg 60
Leu	Ser	Glu	Leu	Val 65	Gln	Ala	Val	Ser	Asp 70	Pro	Ser	Ser	Pro	Gln 75
Tyr	Gly	Lys	Tyr	Leu 80	Thr	Leu	Glu	Asn	Val 85	Ala	Asp	Leu	Val	Arg 90
Pro	Ser	Pro	Leu	Thr 95	Leu	His	Thr	Val	Gln 100	Lys	Trp	Leu	Leu	Ala 105
Ala	Gly	Ala	Gln	Lys 110	Cys	His	Ser	Val	Ile 115	Thr	Gln	Asp	Phe	Leu 120
Thr	Сув	Trp	Leu	Ser 125	Ile	Arg	Gln	Ala	Glu 130	Leu	Leu	Leu	Pro	Gly 135
Ala	Glu	Phe	His	His 140	Tyr	Val	Gly	Gly	Pro 145	Thr	Glu	Thr	His	Val 150
Val	Arg	Ser	Pro	His 155	Pro	Tyr	Gln	Leu	Pro 160	Gln	Ala	Leu	Ala	Pro 165
His	Val	Asp	Phe	Val 170	Gly	Gly	Leu	His	Arg 175	Phe	Pro	Pro	Thr	Ser 180
Ser	Leu	Arg	Gln	Arg 185	Pro	Glu	Pro	Gln	Val 190	Thr	Gly	Thr	Val	Gly 195
Leu	His	Leu	Gly	Val 200	Thr	Pro	Ser	Val	Ile 205	Arg	Lys	Arg	Tyr	Asn 210
Leu	Thr	Ser	Gln	Asp 215	Val	Gly	Ser	Gly	Thr 220	Ser	Asn	Asn	Ser	Gln 225
Ala	Cys	Ala	Gln	Phe 230	Leu	Glu	Gln	Tyr	Phe 235	His	Asp	Ser	Asp	Leu 240
Ala	Gln	Phe	Met	Arg 245	Leu	Phe	Gly	Gly	Asn 250	Phe	Ala	His	Gln	Ala 255
Ser	Val	Ala	Arg	Val 260	Val	Gly	Gln	Gln	Gly 265	Arg	Gly	Arg	Ala	Gly 270
Ile	Glu	Ala	Ser	Leu 275	_	Val	Gln	Tyr	Leu 280		Ser	Ala	Gly	Ala 285

Asn Ile Ser Thr Trp Val Tyr Ser Ser Pro Gly Arg His Glu Gly 290 Gln Glu Pro Phe Leu Gln Trp Leu Met Leu Leu Ser Asn Glu Ser 305 310 Ala Leu Pro His Val His Thr Val Ser Tyr Gly Asp Asp Glu Asp Ser Leu Ser Ser Ala Tyr Ile Gln Arg Val Asn Thr Glu Leu Met Lys Ala Ala Arg Gly Leu Thr Leu Leu Phe Ala Ser Gly Asp 355 Ser Gly Ala Gly Cys Trp Ser Val Ser Gly Arg His Gln Phe Arg Pro Thr Phe Pro Ala Ser Ser Pro Tyr Val Thr Thr Val Gly Gly 380 Thr Ser Phe Gln Glu Pro Phe Leu Ile Thr Asn Glu Ile Val Asp Tyr Ile Ser Gly Gly Gly Phe Ser Asn Val Phe Pro Arg Pro Ser 410 415 Tyr Gln Glu Glu Ala Val Thr Lys Phe Leu Ser Ser Pro His Leu Pro Pro Ser Ser Tyr Phe Asn Ala Ser Gly Arg Ala Tyr Pro Asp Val Ala Ala Leu Ser Asp Gly Tyr Trp Val Val Ser Asn Arg Val Pro Ile Pro Trp Val Ser Gly Thr Ser Ala Ser Thr Pro Val 470 475 Phe Gly Gly Ile Leu Ser Leu Ile Asn Glu His Arg Ile Leu Ser 490 Gly Arg Pro Pro Leu Gly Phe Leu Asn Pro Arg Leu Tyr Gln Gln His Gly Ala Gly Leu Phe Asp Val Thr Arg Gly Cys His Glu Ser 515 Cys Leu Asp Glu Glu Val Glu Gly Gln Gly Phe Cys Ser Gly Pro Gly Trp Asp Pro Val Thr Gly Trp Gly Thr Pro Thr Ser Gln Leu 545 550

Cys

<210> 260 <211> 1638

<212> DNA

<213> Homo Sapien

<400> 260 geogegeget etetecegge geceacacet gtetgagegg egeagegage 50 cgcggcccgg gcgggctgct cggcgcggaa cagtgctcgg catggcaggg 100 attccagggc tectetteet tetettett etgetetgtg etgttgggca 150 agtgageeet taeagtgeee eetggaaaee eacttggeet geataeegee 200 tccctgtcgt cttgccccag tctaccctca atttagccaa gccagacttt 250 ggagccgaag ccaaattaga agtatcttct tcatgtggac cccagtgtca 300 taagggaact ccactgccca cttacgaaga ggccaagcaa tatctgtctt 350 atgaaacgct ctatgccaat ggcagccgca cagagacgca ggtgggcatc 400 tacatectea geagtagtgg agatggggee caacacegag acteagggte 450 ttcaggaaag tctcgaagga agcggcagat ttatggctat gacagcaggt 500 tcagcatttt tgggaaggac ttcctgctca actacccttt ctcaacatca 550 gtgaagttat ccacgggctg caccggcacc ctggtggcag agaagcatgt 600 cctcacagct gcccactgca tacacgatgg aaaaacctat gtgaaaggaa 650 cccagaagct tcgagtgggc ttcctaaagc ccaagtttaa agatggtggt 700 cgaggggcca acgactccac ttcagccatg cccgagcaga tgaaatttca 750 gtggatccgg gtgaaacgca cccatgtgcc caagggttgg atcaagggca 800 atgccaatga catcggcatg gattatgatt atgccctcct ggaactcaaa 850 aagccccaca agagaaaatt tatgaagatt ggggtgagcc ctcctgctaa 900 gcagctgcca gggggcagaa ttcacttctc tggttatgac aatgaccgac 950 caggcaattt ggtgtatcgc ttctgtgacg tcaaagacga gacctatgac 1000 ttgctctacc agcaatgcga tgcccagcca ggggccagcg ggtctggggt 1050 ctatgtgagg atgtggaaga gacagcagca gaagtgggag cgaaaaatta 1100

ttggcatttt ttcagggcac cagtgggtgg acatgaatgg ttccccacag 1150 gatttcaacg tggctgtcag aatcactcct ctcaaatatg cccagatttg 1200 ctattggatt aaaggaaact acctggattg tagggagggg tgacacagtg 1250 ttccctcctg gcagcaatta agggtcttca tgttcttatt ttaggagaggg 1300 ccaaattgtt ttttgtcatt ggcgtgcaca cgtgtgtgt tgtgtgtgg 1350 tgtgtgtaag gtgtcttata atcttttacc tatttcttac aattgcaaga 1400 tgactggctt tactatttga aaactggttt gtgtatcata tcatataca 1450 tttaagcagt ttgaaggcat acttttgcat agaaataaaa aaaatactga 1500 tttggggcaa tgaggaatat ttgacaatta agttaatctt cacgtttttg 1550 caaactttga ttttattc atctgaactt gtttcaaaga tttatattaa 1600 atatttggca tacaagagat atgaaaaaaa aaaaaaaa 1638

<210> 261

<211> 383

<212> PRT

<213> Homo Sapien

<400> 261

Met Ala Gly Ile Pro Gly Leu Leu Phe Leu Leu Phe Phe Leu Leu 1 5 10 15

Cys Ala Val Gly Gln Val Ser Pro Tyr Ser Ala Pro Trp Lys Pro 20 25 30

Thr Trp Pro Ala Tyr Arg Leu Pro Val Val Leu Pro Gln Ser Thr 35 40 45

Leu Asn Leu Ala Lys Pro Asp Phe Gly Ala Glu Ala Lys Leu Glu
50 55 60

Val Ser Ser Ser Cys Gly Pro Gln Cys His Lys Gly Thr Pro Leu
65 70 75

Pro Thr Tyr Glu Glu Ala Lys Gln Tyr Leu Ser Tyr Glu Thr Leu 80 85 90

Tyr Ala Asn Gly Ser Arg Thr Glu Thr Gln Val Gly Ile Tyr Ile

95 100 105

Leu Ser Ser Ser Gly Asp Gly Ala Gln His Arg Asp Ser Gly Ser 110 115 120

Ser	Gly	Lys	Ser	Arg 125	Arg	Lys	Arg	Gln	Ile 130	Tyr	Gly	Tyr	Asp	Ser 135
Arg	Phe	Ser	Ile	Phe 140	Gly	Lys	Asp	Phe	Leu 145	Leu	Asn	Tyr	Pro	Phe 150
Ser	Thr	Ser	Val	Lys 155	Leu	Ser	Thr	Gly	Cys 160	Thr	Gly	Thr	Leu	Val 165
Ala	Glu	Lys	His	Val 170	Leu	Thr	Ala	Ala	His 175	Cys	Ile	His	Asp	Gly 180
Lys	Thr	Tyr	Val	Lys 185	Gly	Thr	Gln	Lys	Leu 190	Arg	Val	Gly	Phe	Leu 195
Lys	Pro	Lys	Phe	Lys 200	Asp	Gly	Gly	Arg	Gly 205	Ala	Asn	Asp	Ser	Thr 210
Ser	Ala	Met	Pro	Glu 215	Gln	Met	Lys	Phe	Gln 220	Trp	Ile	Arg	Val.	Lys 225
Arg	Thr	His	Val	Pro 230	Lys	Gly	Trp	Ile	Lys 235	Gly	Asn	Ala	Asn	Asp 240
Ile	Gly	Met	Asp	Tyr 245	Asp	Tyr	Ala	Leu	Leu 250	Glu	Leu	Lys	Lys	Pro 255
His	Lys	Arg	Lys	Phe 260	Met	Lys	Ile	Gly	Val 265	Ser	Pro	Pro	Ala	Lys 270
Gln	Leu	Pro	Gly	Gly 275	Arg	Ile	His	Phe	Ser 280	Gly	Tyr	Asp	Asn	Asp 285
Arg	Pro	Gly	Asn	Leu 290	Val	Tyr	Arg	Phe	Cys 295	Asp	Val	Lys	Asp	Glu 300
Thr	Tyr	Asp	Leu	Leu 305	Tyr	Gln	Gln	Cys	Asp 310	Ala	Gln	Pro	Gly	Ala 315
Ser	Gly	Ser	Gly	Val 320	Tyr	Val	Arg	Met	Trp 325	Lys	Arg	Gln	Gln	Gln 330
Lys	Trp	Glu	Arg	Lys 335	Ile	Ile	Gly	Ile	Phe 340	Ser	Gly	His	Gln	Trp 345
Val	Asp	Met	Asn	Gly 350	Ser	Pro	Gln	Asp	Phe 355	Asn	Val	Ala	Val	Arg 360
Ile	Thr	Pro	Leu	Lys 365	Tyr	Ala	Gln	Ile	Cys 370	Tyr	Trp	Ile	Lys	Gly 375
Asn	Tyr	Leu	Asp	Cys 380	Arg	Glu	Gly							

<210> 262 <211> 1378

<212> DNA

<213> Homo Sapien

<400> 262 gcatcgccct gggtctctcg agcctgctgc ctgctccccc gccccaccag 50 ccatggtggt ttctggagcg cccccagccc tgggtggggg ctgtctcggc 100 accttcacct ccctgctgct gctggcgtcg acagccatcc tcaatgcggc 150 caggatacct gttcccccag cctgtgggaa gccccagcag ctgaaccggg 200 ttgtgggcgg cgaggacagc actgacagcg agtggccctg gatcgtgagc 250 atccagaaga atgggaccca ccactgcgca ggttctctgc tcaccagccg 300 ctgggtgatc actgctgccc actgtttcaa ggacaacctg aacaaaccat 350 acctgttctc tgtgctgctg ggggcctggc agctggggaa ccctggctct 400 cggtcccaga aggtgggtgt tgcctgggtg gagcccacc ctgtgtattc 450 ctggaaggaa ggtgcctgtg cagacattgc cctggtgcgt ctcgagcgct 500 ccatacagtt ctcagagcgg gtcctgccca tctgcctacc tgatgcctct 550 atccacctcc ctccaaacac ccactgctgg atctcaggct gggggagcat 600 ccaagatgga gttcccttgc cccaccctca gaccctgcag aagctgaagg 650 ttcctatcat cgactcggaa gtctgcagcc atctgtactg gcggggagca 700 ggacagggac ccatcactga ggacatgctg tgtgccggct acttggaggg 750 ggagegggat gettgtetgg gegaeteegg gggeeeeete atgtgeeagg 800 tggacggcgc ctggctgctg gccggcatca tcagctgggg cgagggctgt 850 geogagegea acaggeoegg ggtetacate ageotetetg egeacegete 900 ctgggtggag aagatcgtgc aaggggtgca gctccgcggg cgcgctcagg 950 ggggtgggc cctcagggca ccgagccagg gctctggggc cgccgcgcgc 1000 tectagggeg cagegggaeg egggetegg atetgaaagg eggeeagate 1050 cacatctgga tctggatctg cggcggcctc gggcggtttc ccccgccgta 1100 aataggetea tetaeeteta eetetggggg eeeggaegge tgetgeggaa 1150 aggaaacccc ctccccgacc cgcccgacgg cctcaggccc ccctccaagg 1200 catcaggece egeceaacgg ceteatgtee eegeceecae gaetteegge 1250' cccgccccg ggccccagcg cttttgtgta tataaatgtt aatgattttt 1300 ataggtattt gtaaccctgc ccacatatct tatttattcc tccaatttca 1350 ataaattatt tattctccaa aaaaaaaa 1378

<210> 263

<211> 317

<212> PRT

<213> Homo Sapien

<400> 263

Met Val Val Ser Gly Ala Pro Pro Ala Leu Gly Gly Cys Leu 5 Gly Thr Phe Thr Ser Leu Leu Leu Leu Ala Ser Thr Ala Ile Leu Asn Ala Ala Arg Ile Pro Val Pro Pro Ala Cys Gly Lys Pro Gln 35 Gln Leu Asn Arg Val Val Gly Gly Glu Asp Ser Thr Asp Ser Glu Trp Pro Trp Ile Val Ser Ile Gln Lys Asn Gly Thr His His Cys Ala Gly Ser Leu Leu Thr Ser Arg Trp Val Ile Thr Ala Ala His 80 Cys Phe Lys Asp Asn Leu Asn Lys Pro Tyr Leu Phe Ser Val Leu 100 Leu Gly Ala Trp Gln Leu Gly Asn Pro Gly Ser Arg Ser Gln Lys 115 Val Gly Val Ala Trp Val Glu Pro His Pro Val Tyr Ser Trp Lys 130 125 Glu Gly Ala Cys Ala Asp Ile Ala Leu Val Arg Leu Glu Arg Ser Ile Gln Phe Ser Glu Arg Val Leu Pro Ile Cys Leu Pro Asp Ala 155

Ser Ile His Leu Pro Pro Asn Thr His Cys Trp Ile Ser Gly Trp

175

170

<211> 24

```
Gly Ser Ile Gln Asp Gly Val Pro Leu Pro His Pro Gln Thr Leu
                 185
                                     190
Gln Lys Leu Lys Val Pro Ile Ile Asp Ser Glu Val Cys Ser His
Leu Tyr Trp Arg Gly Ala Gly Gln Gly Pro Ile Thr Glu Asp Met
Leu Cys Ala Gly Tyr Leu Glu Gly Glu Arg Asp Ala Cys Leu Gly
Asp Ser Gly Gly Pro Leu Met Cys Gln Val Asp Gly Ala Trp Leu
Leu Ala Gly Ile Ile Ser Trp Gly Glu Gly Cys Ala Glu Arg Asn
                 260
                                     265
Arg Pro Gly Val Tyr Ile Ser Leu Ser Ala His Arg Ser Trp Val
Glu Lys Ile Val Gln Gly Val Gln Leu Arg Gly Arg Ala Gln Gly
Gly Gly Ala Leu Arg Ala Pro Ser Gln Gly Ser Gly Ala Ala Ala
                 305
Arg Ser
<210> 264
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 264
gtccgcaagg atgcctacat gttc 24
<210> 265
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 265
gcagaggtgt ctaaggttg 19
<210> 266
```

```
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 266
 agetetagae caatgeeage ttee 24
<210> 267
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
 gccaccaact cctgcaagaa cttctcagaa ctgcccctgg tcatg 45
<210> 268
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 268
 ggggaattca ccctatgaca ttgcc 25
<210> 269
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 269
 gaatgccctg caagcatcaa ctgg 24
<210> 270
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 270
 gcacctgtca cctacactaa acacatccag cccatctgtc tccaggcctc 50
```

```
<210> 271
<211> 26
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 271
 gcggaagggc agaatgggac tccaag 26
<210> 272
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 272
 cagccctgcc acatgtgc 18
<210> 273
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 273
 tactgggtgg tcagcaac 18
 <210> 274
 <211> 24
 <212> DNA
 <213> Artificial Sequence
 <223> Synthetic Oligonucleotide Probe
 <400> 274
  ggcgaagagc agggtgagac cccg 24
 <210> 275
 <211> 45
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic Oligonucleotide Probe
```

```
<400> 275
gccctcatcc tctctggcaa atgcagttac agcccggagc ccgac 45
<210> 276
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 276
gggcagggat tccagggctc c 21
<210> 277
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 277
ggctatgaca gcaggttc 18
<210> 278
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 278
tgacaatgac cgaccagg 18
<210> 279
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 279
gcatcgcatt gctggtagag caag 24
<210> 280
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
```

```
<223> Synthetic Oligonucleotide Probe
<400> 280
ttacagtgcc ccctggaaac ccacttggcc tgcataccgc ctccc 45
<210> 281
<211> 34
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 281
egtetegage getecataca gtteeettge ecca 34
<210> 282
<211> 61
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 282
tggagggga gcgggatgct tgtctgggcg actccggggg ccccctcatg 50
tgccaggtgg a 61
<210> 283
<211> 119
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 283
ccctcagacc ctgcagaagc tgaaggttcc tatcatcgac tcggaagtct 50
gcagccatct gtactggcgg ggagcaggac agggacccat cactgaggac 100
atgctgtgtg ccggctact 119
<210> 284
<211> 1875
<212> DNA
<213> Homo Sapien
<400> 284
gacggctggc caccatgcac ggctcctgca gtttcctgat gcttctgctg 50
 ccgctactgc tactgctggt ggccaccaca ggccccgttg gagccctcac 100
```

agatgaggag aaacgtttga tggtggagct gcacaacctc taccgggccc 150 aggtatecee gaeggeetea gaeatgetge acatgagatg ggaegaggag 200 ctggccgcct tcgccaaggc ctacgcacgg cagtgcgtgt ggggccacaa 250 caaggagege gggegeegeg gegagaatet gttegeeate acagaegagg 300 gcatggacgt gccgctggcc atggaggagt ggcaccacga gcgtgagcac 350 tacaacetea gegeegeeac etgeageeea ggeeagatgt geggeeacta 400 cacgcaggtg gtatgggcca agacagagag gatcggctgt ggttcccact 450 tctgtgagaa gctccagggt gttgaggaga ccaacatcga attactggtg 500 tgcaactatg agcctccggg gaacgtgaag gggaaacggc cctaccagga 550 ggggactccg tgctcccaat gtccctctgg ctaccactgc aagaactccc 600 tctgtgaacc catcggaagc ccggaagatg ctcaggattt gccttacctg 650 gtaactgagg ccccatcctt ccgggcgact gaagcatcag actctaggaa 700 aatgggtact ccttcttccc tagcaacggg gattccggct ttcttggtaa 750 cagaggtete aggeteeetg geaaceaagg etetgeetge tgtggaaace 800 caggececaa etteettage aacgaaagae eegeeeteea tggeaacaga 850 ggctccacct tgcgtaacaa ctgaggtccc ttccattttg gcagctcaca 900 geetgeeete ettggatgag gageeagtta eetteeeeaa ategaeeeat 950 gttcctatcc caaaatcagc agacaaagtg acagacaaaa caaaagtgcc 1000 ctctaggagc ccagagaact ctctggaccc caagatgtcc ctgacagggg 1050 caagggaact cctaccccat gcccaggagg aggctgaggc tgaggctgag 1100 ttgcctcctt ccagtgaggt cttggcctca gtttttccag cccaggacaa 1150 gccaggtgag ctgcaggcca cactggacca cacggggcac acctcctcca 1200 agtocotgoo caatttooco aatacototg coacogotaa tgocacgggt 1250 gggcgtgccc tggctctgca gtcgtccttg ccaggtgcag agggccctga 1300 caagectage gttgtgtcag ggetgaacte gggeeetggt catgtgtggg 1350 gccctctcct gggactactg ctcctgcctc ctctggtgtt ggctggaatc 1400 ttetgaatgg gataceacte aaagggtgaa gaggteaget gteeteetgt 1450
catetteece accetgteec cageceetaa acaagataet tettggttaa 1500
ggeeeteegg aagggaaagg etaeggggea tgtgeeteat cacaceatee 1550
ateetggagg cacaaggeet ggetggetge gageteagga ggeegeetga 1600
ggaetgeaca eegggeeeac aceteteetg eeeeteeete etgagteetg 1650
ggggtgggag gatttgaggg ageteaetge etaeetggee tggggetgte 1700
tgeeeacaca geatgtgege teteeetgag tgeetgtaa getggggatg 1750
gggatteeta ggggeagatg aaggaeaage eeeactggag tggggttett 1800
tgagtgggg aggeaggae gagggaagga aagtaaetee tgaeteteea 1850
ataaaaacet gteeaacetg tgaaa 1875

<210> 285

<211> 463

<212> PRT

<213> Homo Sapien

<400> 285

Met His Gly Ser Cys Ser Phe Leu Met Leu Leu Leu Pro Leu Leu 1 5 10 15

Leu Leu Val Ala Thr Thr Gly Pro Val Gly Ala Leu Thr Asp
20 25 30

Glu Glu Lys Arg Leu Met Val Glu Leu His Asn Leu Tyr Arg Ala 35 40 45

Gln Val Ser Pro Thr Ala Ser Asp Met Leu His Met Arg Trp Asp 50 55 60

Glu Glu Leu Ala Ala Phe Ala Lys Ala Tyr Ala Arg Gln Cys Val 65 70 75

Trp Gly His Asn Lys Glu Arg Gly Arg Gly Glu Asn Leu Phe 80 85 90

Ala Ile Thr Asp Glu Gly Met Asp Val Pro Leu Ala Met Glu Glu 95 100 105

Trp His His Glu Arg Glu His Tyr Asn Leu Ser Ala Ala Thr Cys 110 115 120

Ser Pro Gly Gln Met Cys Gly His Tyr Thr Gln Val Val Trp Ala 125 130 135

Lys T	hr	Glu	Arg	Ile 140	Gly	Cys	Gly	Ser	His 145	Phe	Cys	Glu	Lys	Leu 150
Gln G	∃ly	Val	Glu	Glu 155	Thr	Asn	Ile	Glu	Leu 160	Leu	Val	Cys	Asn	Tyr 165
Glu I	Pro	Pro	Gly	Asn 170	Val	Lys	Gly	Lys	Arg 175	Pro	Tyr	Gln	Glu	Gly 180
Thr I	Pro	Cys	Ser	Gln 185	Cys	Pro	Ser	Gly	Tyr 190	His	Cys	Lys	Asn	Ser 195
Leu (	Cys	Glu	Pro	Ile 200	Gly	Ser	Pro	Glu	Asp 205	Ala	Gln	Asp	Leu	Pro 210
Tyr 1	Leu	Val	Thr	Glu 215	Ala	Pro	Ser	Phe	Arg 220	Ala	Thr	Glu	Ala	Ser 225
Asp :	Ser	Arg	Lys	Met 230	Gly	Thr	Pro	Ser	Ser 235	Leu	Ala	Thr	Gly	Ile 240
Pro .	Ala	Phe	Leu	Val 245	Thr	Glu	Val	Ser	Gly 250	Ser	Leu	Ala	Thr	Lys 255
Ala	Leu	Pro	Ala	Val 260	Glu	Thr	Gln	Ala	Pro 265	Thr	Ser	Leu	Ala	Thr 270
Lys	Asp	Pro	Pro	Ser 275	Met	Ala	Thr	Glu	Ala 280	Pro	Pro	Cys	Val	Thr 285
Thr	Glu	Val	Pro	Ser 290	Ile	Leu	Ala	Ala	His 295	Ser	Leu	Pro	Ser	Leu 300
Asp	Glu	Glu	Pro	Val 305	Thr	Phe	Pro	Lys	Ser 310	Thr	His	Val	. Pro	1le 315
Pro	Lys	Ser	Ala	Asp 320	Lys	Val	Thr	Asp	Lys 325	Thr	Lys	Val	. Pro	Ser 330
Arg	Ser	Pro	Glu	. Asn 335	Ser	Leu	Asp	Pro	340	Met	Ser	Leu	ı Thr	Gly 345
Ala	Arg	Glu	. Leu	Leu 350		His	Ala	Glr	355		ı Ala	ı Glı	ı Ala	360
Ala	Glu	ı Leı	ı Pro	Pro 365		Ser	Glu	ı Val	Let 370		a Sei	: Val	L Phe	Pro 375
Ala	Glr	ı Asp	Lys	380		Glu	ı Lev	ı Glr	a Ala 385	a Thi	: Let	ı As	o Hi	390
Gly	His	s Thi	s Ser	Ser 395		Ser	: Let	ı Pro	Ası 400		e Pro	o Ası	n Th:	r Ser 405

```
Ala Thr Ala Asn Ala Thr Gly Gly Arg Ala Leu Ala Leu Gln Ser
 Ser Leu Pro Gly Ala Glu Gly Pro Asp Lys Pro Ser Val Val Ser
                                     430
Gly Leu Asn Ser Gly Pro Gly His Val Trp Gly Pro Leu Leu Gly
                 440
                                     445
                                                          450
Leu Leu Leu Pro Pro Leu Val Leu Ala Gly Ile Phe
                 455
<210> 286
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 286
tectgeagtt teetgatge 19
<210> 287
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 287
ctcatattgc acaccagtaa ttcg 24
<210> 288
<211> 45
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 288
atgaggagaa acgtttgatg gtggagctgc acaacctcta ccggg 45
<210> 289
<211> 3662
<212> DNA
<213> Homo Sapien
<400> 289
gtaactgaag tcaggctttt catttgggaa gccccctcaa cagaattcgg 50
```

tcattctcca agttatggtg gacgtacttc tgttgttctc cctctgcttg 100 ctttttcaca ttagcagacc ggacttaagt cacaacagat tatctttcat 150 caaggcaagt tccatgagcc accttcaaag ccttcgagaa gtgaaactga 200 acaacaatga attggagacc attccaaatc tgggaccagt ctcggcaaat 250 attacacttc tctccttggc tggaaacagg attgttgaaa tactccctga 300 acatetgaaa gagttteagt eeettgaaac tttggaeett ageageaaca 350 atatttcaga gctccaaact gcatttccag ccctacagct caaatatctg 400 tatctcaaca gcaaccgagt cacatcaatg gaacctgggt attttgacaa 450 tttggccaac acactccttg tgttaaagct gaacaggaac cgaatctcag 500 ctatcccacc caagatgttt aaactgcccc aactgcaaca tctcgaattg 550 aaccgaaaca agattaaaaa tgtagatgga ctgacattcc aaggccttgg 600 tgctctgaag tctctgaaaa tgcaaagaaa tggagtaacg aaacttatgg 650 atggagettt ttgggggetg ageaacatgg aaattttgca getggaecat 700 aacaacctaa cagagattac caaaggctgg ctttacggct tgctgatgct 750 gcaggaactt catctcagcc aaaatgccat caacaggatc agccctgatg 800 cctgggagtt ctgccagaag ctcagtgagc tggacctaac tttcaatcac 850 ttatcaaggt tagatgattc aagetteett ggcctaaget tactaaatac 900 actgcacatt gggaacaaca gagtcagcta cattgctgat tgtgccttcc 950 gggggctttc cagtttaaag actttggatc tgaagaacaa tgaaatttcc 1000 tggactattg aagacatgaa tggtgctttc tctgggcttg acaaactgag 1050 gcgactgata ctccaaggaa atcggatccg ttctattact aaaaaagcct 1100 tcactggttt ggatgcattg gagcatctag acctgagtga caacgcaatc 1150 atgtctttac aaggcaatgc attttcacaa atgaagaaac tgcaacaatt 1200 gcatttaaat acatcaagcc ttttgtgcga ttgccagcta aaatggctcc 1250 cacagtgggt ggcggaaaac aactttcaga gctttgtaaa tgccagttgt 1300 gcccatcctc agctgctaaa aggaagaagc atttttgctg ttagcccaga 1350

tggctttgtg tgtgatgatt ttcccaaacc ccagatcacg gttcagccag 1400 aaacacagtc ggcaataaaa ggttccaatt tgagtttcat ctgctcagct 1450 gccagcagca gtgattcccc aatgactttt gcttggaaaa aagacaatga 1500 actactgcat gatgctgaaa tggaaaatta tgcacacctc cgggcccaag 1550 gtggcgaggt gatggagtat accaccatcc ttcggctgcg cgaggtggaa 1600 tttgccagtg aggggaaata tcagtgtgtc atctccaatc actttggttc 1650 atcctactct gtcaaagcca agcttacagt aaatatgctt ccctcattca 1700 ccaagacccc catggatctc accatccgag ctggggccat ggcacgcttg 1750 gagtgtgctg ctgtggggca cccagccccc cagatagcct ggcagaagga 1800 tgggggcaca gacttcccag ctgcacggga gagacgcatg catgtgatgc 1850 ccgaggatga cgtgttcttt atcgtggatg tgaagataga ggacattggg 1900 gtatacagct gcacagctca gaacagtgca ggaagtattt cagcaaatgc 1950 aactctgact gtcctagaaa caccatcatt tttgcggcca ctgttggacc 2000 gaactgtaac caagggagaa acagccgtcc tacagtgcat tgctggagga 2050 agccctcccc ctaaactgaa ctggaccaaa gatgatagcc cattggtggt 2100 aaccgagagg cacttttttg cagcaggcaa tcagcttctg attattgtgg 2150 actcagatgt cagtgatgct gggaaataca catgtgagat gtctaacacc 2200 cttggcactg agagaggaaa cgtgcgcctc agtgtgatcc ccactccaac 2250 ctgcgactcc cctcagatga cagccccatc gttagacgat gacggatggg 2300 ccactgtggg tgtcgtgatc atagccgtgg tttgctgtgt ggtgggcacg 2350 tcactcgtgt gggtggtcat catataccac acaaggcgga ggaatgaaga 2400 ttgcagcatt accaacacag atgagaccaa cttgccagca gatattccta 2450 gttatttgtc atctcaggga acgttagctg acaggcagga tgggtacgtg 2500 tetteagaaa gtggaageea eeaceagttt gteacatett eaggtgetgg 2550 atttttctta ccacaacatg acagtagtgg gacctgccat attgacaata 2600 gcagtgaagc tgatgtggaa gctgccacag atctgttcct ttgtccgttt 2650 ttgggatcca caggccctat gtatttgaag ggaaatgtgt atggctcaga 2700

teettttgaa acatateata eaggttgeag teetgaeeea agaacagttt 2750 taatggacca ctatgagccc agttacataa agaaaaagga gtgctaccca 2800 tgttctcatc cttcagaaga atcctgcgaa cggagcttca gtaatatatc 2850 gtggccttca catgtgagga agctacttaa cactagttac tctcacaatg 2900 aaggacctgg aatgaaaaat ctgtgtctaa acaagtcctc tttagatttt 2950 agtgcaaatc cagagccagc gtcggttgcc tcgagtaatt ctttcatggg 3000 tacctttgga aaagctctca ggagacctca cctagatgcc tattcaagct 3050 ttggacagcc atcagattgt cagccaagag ccttttattt gaaagctcat 3100 tetteeceag aettggaete tgggteagag gaagatggga aagaaaggae 3150 agattttcag gaagaaaatc acatttgtac ctttaaacag actttagaaa 3200 actacaggac tccaaatttt cagtcttatg acttggacac atagactgaa 3250 tgagaccaaa ggaaaagctt aacatactac ctcaagtgaa cttttattta 3300 aaagagagag aatcttatgt tttttaaatg gagttatgaa ttttaaaagg 3350 ataaaaatgc tttatttata cagatgaacc aaaattacaa aaagttatga 3400 aaatttttat actgggaatg atgctcatat aagaatacct ttttaaacta 3450 ttttttaact ttgttttatg caaaaaagta tcttacgtaa attaatgata 3500 taaatcatga ttattttatg tatttttata atgccagatt tctttttatg 3550 gaaaatgagt tactaaagca ttttaaataa tacctgcctt gtaccatttt 3600 ttaaatagaa gttacttcat tatattttgc acattatatt taataaaatg 3650 tgtcaatttg aa 3662

<sup>&</sup>lt;210> 290

<sup>&</sup>lt;211> 1059

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo Sapien

<sup>&</sup>lt;400> 290

Met Val Asp Val Leu Leu Leu Phe Ser Leu Cys Leu Leu Phe His
1 5 10 15

Ile Ser Arg Pro Asp Leu Ser His Asn Arg Leu Ser Phe Ile Lys
20 25 30

Ala	Ser	Ser	Met	Ser 35	His	Leu	Gln	Ser	Leu 40	Arg	Glu	Val	Lys	Leu 45
Asn	Asn	Asn	Glu	Leu 50	Glu	Thr	Ile	Pro	Asn 55	Leu	Gly	Pro	Val	Ser 60
Ala	Asn	Ile	Thr	Leu 65	Leu	Ser	Leu	Ala	Gly 70	Asn	Arg	Ile	Val	Glu 75
Ile	Leu	Pro	Glu	His 80	Leu	Lys	Glu	Phe	Gln 85	Ser	Leu	Glu	Thr	Leu 90
Asp	Leu	Ser	Ser	Asn 95	Asn	Ile	Ser	Glu	Leu 100	Gln	Thr	Ala	Phe	Pro 105
Ala	Leu	Gln	Leu	Lys 110	Tyr	Leu	Tyr	Leu	Asn 115	Ser	Asn	Arg	Val	Thr 120
Ser	Met	Glu	Pro	Gly 125	Tyr	Phe	Asp	Asn	Leu 130	Ala	Asn	Thr	Leu	Leu 135
Val	Leu	Lys	Leu	Asn 140	Arg	Asn	Arg	Ile	Ser 145	Ala	Ile	Pro	Pro	Lys 150
Met	Phe	Lys	Leu	Pro	Gln	Leu	Gln	His	Leu	Glu	Leu	Asn	Arg	Asn
				155					160					165
Lys	Ile	Lys	Asn	Val 170	Asp	Gly	Leu	Thr	Phe 175	Gln	Gly	Leu	Gly	Ala 180
Leu	Lys	Ser	Leu	Lys 185	Met	Gln	Arg	Asn	Gly 190		Thr	Lys	Leu	Met 195
Asp	Gly	Ala	Phe	Trp 200	Gly	Leu	Ser	Asn	Met 205		Ile	Leu	Gln	Leu 210
Asp	His	Asn	Asn	Leu 215		Glu	Ile	Thr	Lys 220		Trp	Leu	ı Tyr	Gly 225
Leu	. Leu	. Met	Leu	Gln 230		Leu	His	Leu	Ser 235		Asn	Ala	ıle	Asn 240
Arg	Ile	: Ser	Pro	Asp 245		Trp	Glu	Phe	250		Lys	Let	ı Ser	Glu 255
Leu	Asp	Leu	. Thr	Phe 260		His	Leu	. Ser	265		ı Asp	Asp	Ser	Ser 270
Phe	e Leu	ı Gly	Leu	Ser 275		ı Lev	ı Asr	ı Thr	280		s Ile	e Gly	y Asr	Asn 285
Arc	y Val	. Sei	Tyr	Ile	Alá	a Asp	су Су	s Ala	Phe	e Arg	g Gl	, Lei	ı Ser	Ser

				290					295					300
Leu	Lys	Thr	Leu	Asp 305	Leu	Lys	Asn	Asn	Glu 310	Ile	Ser	Trp	Thr	Ile 315
Glu	Asp	Met	Asn	Gly 320	Ala	Phe	Ser	Gly	Leu 325	Asp	Lys	Leu	Arg	Arg 330
Leu	Ile	Leu	Gln	Gly 335	Asn	Arg	Ile	Arg	Ser 340	Ile	Thr	Lys	Lys	Ala 345
Phe	Thr	Gly	Leu	Asp 350	Ala	Leu	Glu	His	Leu 355	Asp	Leu	Ser	Asp	Asn 360
Ala	Ile	Met	Ser	Leu 365	Gln	Gly	Asn	Ala	Phe 370	Ser	Gln	Met	Lys	Lys 375
Leu	Gln	Gln	Leu	His 380	Leu	Asn	Thr	Ser	Ser 385	Leu	Leu	Cys	Asp	Cys 390
Gln	Leu	Lys	Trp	Leu 395	Pro	Gln	Trp	Val	Ala 400	Glu	Asn	Asn	Phe	Gln 405
Ser	Phe	Val	Asn	Ala 410	Ser	Cys	Ala	His	Pro 415	Gln	Leu	Leu	Lys	Gly 420
				425				Asp	430					435
Phe	Pro	Lys	Pro	Gln 440	Ile	Thr	Val	Gln	Pro 445	Glu	Thr	Gln	Ser	Ala 450
				455				Ile	460					465
Ser	Asp	Ser	Pro	Met 470	Thr	Phe	Ala	Trp	Lys 475	Lys	Asp	Asn	Glu	Leu 480
Leu	His	Asp	Ala	Glu 485	Met	Glu	Asn	Tyr	Ala 490	His	Leu	Arg	Ala	Gln 495
Gly	Gly	Glu	. Val	Met 500		Tyr	Thr	Thr	Ile 505		Arg	Leu	Arg	Glu 510
Val	Glu	Phe	Ala	Ser 515		. Gly	Lys	Tyr	Gln 520		Val	Ile	Ser	Asn 525
His	Phe	Gly	Ser	Ser 530		Ser	Val	Lys	Ala 535		Leu	. Thr	Val	Asn 540
Met	Leu	Pro	Ser	Phe 545		· Lys	Thr	Pro	Met 550		Leu	Thr	lle	Arg 555

Ala	Gly	Ala	Met	Ala 560	Arg	Leu	Glu	Cys	Ala 565	Ala	Val	Gly	His	Pro 570
Ala	Pro	Gln	Ile	Ala 575	Trp	Gln	Lys	Asp	Gly 580	Gly	Thr	Asp	Phe	Pro 585
Ala	Ala	Arg	Glu	Arg 590	Arg	Met	His	Val	Met 595	Pro	Glu	Asp	Asp	Val 600
Phe	Phe	Ile	Val	Asp 605	Val	Lys	Ile	Glu	Asp 610	Ile	Gly	Val	Tyr	Ser 615
Сув	Thr	Ala	Gln	Asn 620	Ser	Ala	Gly	Ser	Ile 625	Ser	Ala	Asn	Ala	Thr 630
Leu	Thr	Val	Leu	Glu 635	Thr	Pro	Ser	Phe	Leu 640	Arg	Pro	Leu	Leu	Asp 645
Arg	Thr	Val	Thr	Lys 650	Gly	Glu	Thr	Ala	Val 655	Leu	Gln	Cys	Ile	Ala 660
Gly	Gly	Ser	Pro	Pro 665	Pro	Lys	Leu	Asn	Trp 670	Thr	Lys	Asp	Asp	Ser 675
Pro	Leu	Val	Val	Thr 680	Glu	Arg	His	Phe	Phe 685	Ala	Ala	Gly	Asn	Gln 690
Leu	Leu	Ile	Ile	Val 695	Asp	Ser	Asp	Val	Ser 700	Asp	Ala	Gly	Lys	Tyr 705
Thr	Cys	Glu	Met	Ser 710	Asn	Thr	Leu	Gly	Thr 715	Glu	Arg	Gly	Asn	Val 720
Arg	Leu	Ser	Val	Ile 725		Thr	Pro	Thr	Cys 730	Asp	Ser	Pro	Gln	Met 735
Thr	Ala	Pro	Ser	Leu 740		Asp	Asp	Gly	Trp 745	Ala	Thr	Val	Gly	Val 750
Val	Ile	Ile	Ala	Val 755		Сув	Суз	Val	Val 760		Thr	Ser	Leu	Val 765
Trp	Val	. Val	Ile	770		His	Thr	Arg	Arg 775		Asn	Glu	Asp	Cys 780
Ser	Ile	Thr	: Asn	Thr 785		Glu	. Thr	· Asn	Leu 790		Ala	Asp	Ile	Pro 795
Ser	Туг	Leu	ı Ser		Gln	ı Gly	7 Thr	Leu		. Asp	Arg	, Glr	a Asp	Gly 810

Tyr Val Ser Ser Glu Ser Gly Ser His His Gln Phe Val Thr Ser 820 Ser Gly Ala Gly Phe Phe Leu Pro Gln His Asp Ser Ser Gly Thr 835 830 Cys His Ile Asp Asn Ser Ser Glu Ala Asp Val Glu Ala Ala Thr 855 Asp Leu Phe Leu Cys Pro Phe Leu Gly Ser Thr Gly Pro Met Tyr 865 860 Leu Lys Gly Asn Val Tyr Gly Ser Asp Pro Phe Glu Thr Tyr His Thr Gly Cys Ser Pro Asp Pro Arg Thr Val Leu Met Asp His Tyr 890 Glu Pro Ser Tyr Ile Lys Lys Lys Glu Cys Tyr Pro Cys Ser His Pro Ser Glu Glu Ser Cys Glu Arg Ser Phe Ser Asn Ile Ser Trp 930 925 Pro Ser His Val Arg Lys Leu Leu Asn Thr Ser Tyr Ser His Asn 935 Glu Gly Pro Gly Met Lys Asn Leu Cys Leu Asn Lys Ser Ser Leu 955 950 Asp Phe Ser Ala Asn Pro Glu Pro Ala Ser Val Ala Ser Ser Asn 975 970 Ser Phe Met Gly Thr Phe Gly Lys Ala Leu Arg Arg Pro His Leu 980 Asp Ala Tyr Ser Ser Phe Gly Gln Pro Ser Asp Cys Gln Pro Arg 1000 Ala Phe Tyr Leu Lys Ala His Ser Ser Pro Asp Leu Asp Ser Gly 1015 1010 Ser Glu Glu Asp Gly Lys Glu Arg Thr Asp Phe Gln Glu Glu Asn 1025 His Ile Cys Thr Phe Lys Gln Thr Leu Glu Asn Tyr Arg Thr Pro 1050 1045 1040 Asn Phe Gln Ser Tyr Asp Leu Asp Thr

<210> 291 <211> 2906

1055

<212> DNA <213> Homo Sapien

<400> 291 ggggagagga attgaccatg taaaaggaga ctttttttt tggtggtggt 50 ggctgttggg tgccttgcaa aaatgaagga tgcaggacgc agctttctcc 100 tggaaccgaa cgcaatggat aaactgattg tgcaagagag aaggaagaac 150 gaagcttttt cttgtgagcc ctggatctta acacaaatgt gtatatgtgc 200 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250 ttggtgtgtt ctgacataaa taaataatct taaagcagct gttcccctcc 300 ccaccccaa aaaaaaggat gattggaaat gaagaaccga ggattcacaa 350 agaaaaaagt atgttcattt ttctctataa aggagaaagt gagccaagga 400 gatatttttg gaatgaaaag tttggggctt ttttagtaaa gtaaagaact 450 aattaataat acatctgcaa agaaatttca gagaagaaaa gttgaccgcg 550 gcagattgag gcattgattg ggggagagaa accagcagag cacagttgga 600 tttgtgccta tgttgactaa aattgacgga taattgcagt tggatttttc 650 ttcatcaacc tcctttttt taaattttta ttccttttgg tatcaagatc 700 atgcgttttc tcttgttctt aaccacctgg atttccatct ggatgttgct 750 gtgatcagtc tgaaatacaa ctgtttgaat tccagaagga ccaacaccag 800 ataaattatg aatgttgaac aagatgacct tacatccaca gcagataatg 850 ataggteeta ggtttaacag ggeeetattt gaeeeeetge ttgtggtget 900 gctggctctt caacttcttg tggtggctgg tctggtgcgg gctcagacct 950 gcccttctgt gtgctcctgc agcaaccagt tcagcaaggt gatttgtgtt 1000 cggaaaaacc tgcgtgaggt tccggatggc atctccacca acacacggct 1050 gctgaacctc catgagaacc aaatccagat catcaaagtg aacagcttca 1100 agcacttgag gcacttggaa atcctacagt tgagtaggaa ccatatcaga 1150 accattgaaa ttggggcttt caatggtctg gcgaacctca acactctgga 1200 actctttgac aatcgtctta ctaccatccc gaatggagct tttgtatact 1250 tgtctaaact gaaggagctc tggttgcgaa acaaccccat tgaaagcatc 1300 ccttcttatg cttttaacag aattccttct ttgcgccgac tagacttagg 1350 ggaattgaaa agactttcat acatctcaga aggtgccttt gaaggtctgt 1400 ccaacttgag gtatttgaac cttgccatgt gcaaccttcg ggaaatccct 1450 aacctcacac cgctcataaa actagatgag ctggatcttt ctgggaatca 1500 tttatctgcc atcaggcctg gctctttcca gggtttgatg caccttcaaa 1550 aactgtggat gatacagtcc cagattcaag tgattgaacg gaatgccttt 1600 gacaacette agteactagt ggagateaac etggeacaca ataatetaac 1650 attactgcct catgacctct tcactccctt gcatcatcta gagcggatac 1700 atttacatca caacccttgg aactgtaact gtgacatact gtggctcagc 1750 tggtggataa aagacatggc cccctcgaac acagcttgtt gtgcccggtg 1800 taacactcct cccaatctaa aggggaggta cattggagag ctcgaccaga 1850 attacttcac atgctatgct ccggtgattg tggagccccc tgcagacctc 1900 aatgtcactg aaggcatggc agctgagctg aaatgtcggg cctccacatc 1950 cctgacatct gtatcttgga ttactccaaa tggaacagtc atgacacatg 2000 gggcgtacaa agtgcggata gctgtgctca gtgatggtac gttaaatttc 2050 acaaatgtaa ctgtgcaaga tacaggcatg tacacatgta tggtgagtaa 2100 ttccgttggg aatactactg cttcagccac cctgaatgtt actgcagcaa 2150 ccactactcc tttctcttac ttttcaaccg tcacagtaga gactatggaa 2200 ccgtctcagg atgaggcacg gaccacagat aacaatgtgg gtcccactcc 2250 agtggtcgac tgggagacca ccaatgtgac cacctctctc acaccacaga 2300 gcacaaggtc gacagagaaa accttcacca tcccagtgac tgatataaac 2350 agtgggatcc caggaattga tgaggtcatg aagactacca aaatcatcat 2400 tgggtgtttt gtggccatca cactcatggc tgcagtgatg ctggtcattt 2450 tctacaagat gaggaagcag caccatcggc aaaaccatca cgccccaaca 2500 aggactgttg aaattattaa tgtggatgat gagattacgg gagacacacc 2550 catggaaagc cacctgccca tgcctgctat cgagcatgag cacctaaatc 2600 actataactc atacaaatct cccttcaacc acacaacaac agttaacaca 2650 ataaattcaa tacacagttc agtgcatgaa ccgttattga tccgaatgaa 2700 ctctaaagac aatgtacaag agactcaaat ctaaaacatt tacagagtta 2750 caaaaaacaa acaatcaaaa aaaaagacag tttattaaaa atgacacaaa 2800 tgactggct aaatctactg tttcaaaaaa gtgtctttac aaaaaacaa 2850 aaaagaaaag aaatttattt attaaaaatt ctattgtgat ctaaagcaga 2900 caaaaa 2906

<210> 292

<211> 640

<212> PRT

<213> Homo Sapien

<400> 292

Met Leu Asn Lys Met Thr Leu His Pro Gln Gln Ile Met Ile Gly
1 5 10 15

Pro Arg Phe Asn Arg Ala Leu Phe Asp Pro Leu Leu Val Val Leu 20 25 30

Leu Ala Leu Gln Leu Leu Val Val Ala Gly Leu Val Arg Ala Gln 35 40 45

Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val
50 55 60

Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser
65 70 75

Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile 80 85 90

Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu 95 100 105

Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe 110 115 120

Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg 125 130 135

Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu 140 145 150

Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser

				155					160					165
Tyr	Ala	Phe	Asn	Arg 170	Ile	Pro	Ser	Leu	Arg 175	Arg	Leu	Asp	Leu	Gly 180
Glu	Leu	Lys	Arg	Leu 185	Ser	Tyr	Ile	Ser	Glu 190	Gly	Ala	Phe	Glu	Gly 195
Leu	Ser	Asn	Leu	Arg 200	Tyr	Leu	Asn	Leu	Ala 205	Met	Cys	Asn	Leu	Arg 210
Glu	Ile	Pro	Asn	Leu 215	Thr	Pro	Leu	Ile	Lys 220	Leu	Asp	Glu	Leu	Asp 225
Leu	Ser	Gly	Asn	His 230	Leu	Ser	Ala	Ile	Arg 235	Pro	Gly	Ser	Phe	Gln 240
Gly	Leu	Met	His	Leu 245	Gln	Lys	Leu	Trp	Met 250	Ile	Gln	Ser	Gln	Ile 255
Gln	Val	Ile	Glu	Arg 260	Asn	Ala	Phe	Asp	Asn 265	Leu	Gln	Ser	Leu	Val 270
Glu	Ile	Asn	Leu	Ala 275	His	Asn	Asn	Leu	Thr 280	Leu	Leu	Pro	His	Asp 285
Leu	Phe	Thr	Pro	Leu 290	His	His	Leu	Glu	Arg 295		His	Leu	His	His 300
Asn	Pro	Trp	Asn	Cys 305	Asn	Cys	Asp	Ile	Leu 310		Leu	Ser	Trp	Trp 315
Ile	Lys	Asp	Met	Ala 320	Pro	Ser	Asn	Thr	Ala 325		Cys	Ala	Arg	Cys 330
Asn	Thr	Pro	Pro	Asn 335	Leu	Lys	Gly	Arg	Tyr 340		Gly	Glu	Leu	Asp 345
Gln	Asn	Tyr	Phe	Thr 350		Tyr	Ala	Pro	Val 355		Val	Glu	Pro	Pro 360
Ala	Asp	Leu	. Asn	Val 365		Glu	Gly	Met	Ala 370		Glu	Leu	Lys	Cys 375
Arg	Ala	Ser	Thr	Ser 380		Thr	Ser	Val	Ser 385		ıle	Thr	Pro	Asn 390
Gly	Thr	Val	Met	Thr 395		Gly	Ala	Tyr	Lys 400		. Arg	Ile	Ala	. Val 405
Leu	Ser	Asp	Gly	Thr		Asn	Phe	Thr	Asr 415		Thr	Val	Gln	Asp 420

Thr Gly	<i>r</i> Met	Tyr	Thr 425	Cys	Met	Val	Ser	Asn 430	Ser	Val	Gly	Asn	Thr 435
Thr Ala	a Ser	Ala	Thr 440	Leu	Asn	Val	Thr	Ala 445	Ala	Thr	Thr	Thr	Pro 450
Phe Ser	Tyr	Phe	Ser 455	Thr	Val	Thr	Val	Glu 460	Thr	Met	Glu	Pro	Ser 465
Gln As	o Glu	Ala	Arg 470	Thr	Thr	Asp	Asn	Asn 475	Val	Gly	Pro	Thr	Pro 480
Val Va	l Asp	Trp	Glu 485	Thr	Thr	Asn	Val	Thr 490	Thr	Ser	Leu	Thr	Pro 495
Gln Se	r Thr	Arg	Ser 500	Thr	Glu	Lys	Thr	Phe 505	Thr	Ile	Pro	Val	Thr 510
Asp Il	e Asn	. Ser	Gly 515	Ile	Pro	Gly	Ile	Asp 520	Glu	Val	Met	Lys	Thr 525
Thr Ly	s Ile	lle	Ile 530	Gly	Cys	Phe	Val	Ala 535	Ile	Thr	Leu	Met	Ala 540
Ala Va	l Met	Leu	Val 545		Phe	Tyr	Lys	Met 550		Lys	Gln	His	His 555
Arg Gl	n Asr	n His	His 560		Pro	Thr	Arg	Thr 565		Glu	Ile	Ile	Asn 570
Val As	p Asp	o Glu	11e 575		Gly	Asp	Thr	Pro 580		Glu	Ser	His	Leu 585
Pro Me	t Pro	Ala	11e 590		His	Glu	His	Leu 595	Asn	His	Tyr	Asn	Ser 600
Tyr Ly	s Sei	r Pro	Phe 605		His	Thr	Thr	Thr 610	· Val	Asn	Thr	·Ile	Asn 615
Ser Il	e Hi	s Ser	Ser 620		His	Glu	Pro	625	Leu ;	ı Ile	e Arg	Met	Asn 630
Ser Ly	rs Asj	o Asr	val 635		Glu	Thr	Gln	11e 640					
<210> 2	293												

<211> 4053

<212> DNA

<213> Homo Sapien

<400> 293

agccgacgct gctcaagctg caactctgtt gcagttggca gttcttttcg 50

gtttccctcc tgctgtttgg gggcatgaaa gggcttcgcc gccgggagta 100 aaagaaggaa ttgaccgggc agcgcgaggg aggagcgcgc acgcgaccgc 150 gagggeggge gtgcaccete ggetggaagt ttgtgeeggg ceeegagege 200 gegeeggetg ggagettegg gtagagaeet aggeegetgg accgegatga 250 gegegeegag ceteegtgeg egegeegegg ggttgggget getgetgtge 300 geggtgetgg ggegegetgg ceggteegae ageggeggte geggggaaet 350 egggeagece tetggggtag eegeegageg eecatgeece actaeetgee 400 gctgcctcgg ggacctgctg gactgcagtc gtaagcggct agcgcgtctt 450 cccgagccac tcccgtcctg ggtcgctcgg ctggacttaa gtcacaacag 500 attatctttc atcaaggcaa gttccatgag ccaccttcaa agccttcgag 550 aagtgaaact gaacaacaat gaattggaga ccattccaaa tctgggacca 600 gtctcggcaa atattacact tctctccttg gctggaaaca ggattgttga 650 aatactccct gaacatctga aagagtttca gtcccttgaa actttggacc 700 ttagcagcaa caatatttca gagctccaaa ctgcatttcc agccctacag 750 ctcaaatatc tgtatctcaa cagcaaccga gtcacatcaa tggaacctgg 800 gtattttgac aatttggcca acacactcct tgtgttaaag ctgaacagga 850 accgaatctc agctatccca cccaagatgt ttaaactgcc ccaactgcaa 900 catctcgaat tgaaccgaaa caagattaaa aatgtagatg gactgacatt 950 ccaaggcctt ggtgctctga agtctctgaa aatgcaaaga aatggagtaa 1000 cgaaacttat ggatggagct ttttgggggc tgagcaacat ggaaattttg 1050 cagctggacc ataacaacct aacagagatt accaaaggct ggctttacgg 1100 cttgctgatg ctgcaggaac ttcatctcag ccaaaatgcc atcaacagga 1150 tcagccctga tgcctgggag ttctgccaga agctcagtga gctggaccta 1200 actttcaatc acttatcaag gttagatgat tcaagcttcc ttggcctaag 1250 cttactaaat acactgcaca ttgggaacaa cagagtcagc tacattgctg 1300 attgtgcctt ccgggggctt tccagtttaa agactttgga tctgaagaac 1350

aatgaaattt cctggactat tgaagacatg aatggtgctt tctctgggct 1400 tgacaaactg aggcgactga tactccaagg aaatcggatc cgttctatta 1450 ctaaaaaagc cttcactggt ttggatgcat tggagcatct agacctgagt 1500 gacaacgcaa tcatgtcttt acaaggcaat gcattttcac aaatgaagaa 1550 actgcaacaa ttgcatttaa atacatcaag ccttttgtgc gattgccagc 1600 taaaatggct cccacagtgg gtggcggaaa acaactttca gagctttgta 1650 aatgccagtt gtgcccatcc tcagctgcta aaaggaagaa gcatttttgc 1700 tgttagccca gatggctttg tgtgtgatga ttttcccaaa ccccagatca 1750 cggttcagcc agaaacacag tcggcaataa aaggttccaa tttgagtttc 1800 atctgctcag ctgccagcag cagtgattcc ccaatgactt ttgcttggaa 1850 aaaagacaat gaactactgc atgatgctga aatggaaaat tatgcacacc 1900 teegggeeca aggtggegag gtgatggagt ataccaccat cetteggetg 1950 cgcgaggtgg aatttgccag tgaggggaaa tatcagtgtg tcatctccaa 2000 tcactttggt tcatcctact ctgtcaaagc caagcttaca gtaaatatgc 2050 ttccctcatt caccaagacc cccatggatc tcaccatccg agetggggcc 2100 atggcacget tggagtgtgc tgctgtgggg cacccagccc cccagatagc 2150 ctggcagaag gatgggggca cagacttccc agctgcacgg gagagacgca 2200 tgcatgtgat gcccgaggat gacgtgttct ttatcgtgga tgtgaagata 2250 gaggacattg gggtatacag ctgcacagct cagaacagtg caggaagtat 2300 ttcagcaaat gcaactctga ctgtcctaga aacaccatca tttttgcggc 2350 cactgttgga ccgaactgta accaagggag aaacagccgt cctacagtgc 2400 attgctggag gaagccctcc ccctaaactg aactggacca aagatgatag 2450 cccattggtg gtaaccgaga ggcacttttt tgcagcaggc aatcagcttc 2500 tgattattgt ggactcagat gtcagtgatg ctgggaaata cacatgtgag 2550 atgtctaaca cccttggcac tgagagagga aacgtgcgcc tcagtgtgat 2600 ccccactcca acctgcgact cccctcagat gacagcccca tcgttagacg 2650 atgacggatg ggccactgtg ggtgtcgtga tcatagccgt ggtttgctgt 2700 gtggtgggca cgtcactcgt gtgggtggtc atcatatacc acacaaggcg 2750 gaggaatgaa gattgcagca ttaccaacac agatgagacc aacttgccag 2800 cagatattcc tagttatttg tcatctcagg gaacgttagc tgacaggcag 2850 gatgggtacg tgtcttcaga aagtggaagc caccaccagt ttgtcacatc 2900 ttcaggtgct ggatttttct taccacaaca tgacagtagt gggacctgcc 2950 atattgacaa tagcagtgaa gctgatgtgg aagctgccac agatctgttc 3000 ctttgtccgt ttttgggatc cacaggccct atgtatttga agggaaatgt 3050 gtatggctca gatccttttg aaacatatca tacaggttgc agtcctgacc 3100 caagaacagt tttaatggac cactatgagc ccagttacat aaagaaaaag 3150 gagtgctacc catgttctca tccttcagaa gaatcctgcg aacggagctt 3200 cagtaatata tcgtggcctt cacatgtgag gaagctactt aacactagtt 3250 actctcacaa tgaaggacct ggaatgaaaa atctgtgtct aaacaagtcc 3300 tetttagatt ttagtgeaaa teeagageea gegteggttg eetegagtaa 3350 ttctttcatg ggtacctttg gaaaagctct caggagacct cacctagatg 3400 cctattcaag ctttggacag ccatcagatt gtcagccaag agccttttat 3450 ttgaaagctc attcttcccc agacttggac tctgggtcag aggaagatgg 3500 gaaagaaagg acagattttc aggaagaaaa tcacatttgt acctttaaac 3550 agactttaga aaactacagg actccaaatt ttcagtctta tgacttggac 3600 acatagactg aatgagacca aaggaaaagc ttaacatact acctcaagtg 3650 aacttttatt taaaagagag agaatcttat gttttttaaa tggagttatg 3700 aattttaaaa ggataaaaat gctttattta tacagatgaa ccaaaattac 3750 aaaaagttat gaaaattttt atactgggaa tgatgctcat ataagaatac 3800 ctttttaaac tatttttaa ctttgtttta tgcaaaaaag tatcttacgt 3850 aaattaatga tataaatcat gattatttta tgtatttta taatgccaga 3900 tttcttttta tggaaaatga gttactaaag cattttaaat aatacctgcc 3950 ttgtaccatt ttttaaatag aagttacttc attatatttt gcacattata 4000

<210> 294 <211> 1119 <212> PRT <213> Homo Sapien

<400> 294

Met Ser Ala Pro Ser Leu Arg Ala Arg Ala Ala Gly Leu Gly Leu

1 5 10 15

Leu Leu Cys Ala Val Leu Gly Arg Ala Gly Arg Ser Asp Ser Gly 20 25 30

Gly Arg Gly Glu Leu Gly Gln Pro Ser Gly Val Ala Ala Glu Arg 35 40 45

Pro Cys Pro Thr Thr Cys Arg Cys Leu Gly Asp Leu Leu Asp Cys 50 55

Ser Arg Lys Arg Leu Ala Arg Leu Pro Glu Pro Leu Pro Ser Trp 65 70 75

Val Ala Arg Leu Asp Leu Ser His Asn Arg Leu Ser Phe Ile Lys
80 85 90

Ala Ser Ser Met Ser His Leu Gln Ser Leu Arg Glu Val Lys Leu 95 100 105

Asn Asn Asn Glu Leu Glu Thr Ile Pro Asn Leu Gly Pro Val Ser

Ala Asn Ile Thr Leu Leu Ser Leu Ala Gly Asn Arg Ile Val Glu 125 130 135

Ile Leu Pro Glu His Leu Lys Glu Phe Gln Ser Leu Glu Thr Leu
140 145 150

Asp Leu Ser Ser Asn Asn Ile Ser Glu Leu Gln Thr Ala Phe Pro

Ala Leu Gln Leu Lys Tyr Leu Tyr Leu Asn Ser Asn Arg Val Thr 170 175 180

Ser Met Glu Pro Gly Tyr Phe Asp Asn Leu Ala Asn Thr Leu Leu 185 190 195

Val Leu Lys Leu Asn Arg Asn Arg Ile Ser Ala Ile Pro Pro Lys 200 205 210

Met Phe Lys Leu Pro Gln Leu Gln His Leu Glu Leu Asn Arg Asn

				215					220					225
Lys	Ile	Lys	Asn	Val 230	Asp	Gly	Leu	Thr	Phe 235	Gln	Gly	Leu	Gly	Ala 240
Leu	Lys	Ser	Leu	Lys 245	Met	Gln	Arg	Asn	Gly 250	Val	Thr	Lys	Leu	Met 255
Asp	Gly	Ala	Phe	Trp 260	Gly	Leu	Ser	Asn	Met 265	Glu	Ile	Leu	Gln	Leu 270
Asp	His	Asn	Asn	Leu 275	Thr	Glu	Ile	Thr	Lys 280	Gly	Trp	Leu	Tyr	Gly 285
Leu	Leu	Met	Leu	Gln 290	Glu	Leu	His	Leu	Ser 295	Gln	Asn	Ala	Ile	Asn 300
Arg	Ile	Ser	Pro	Asp 305	Ala	Trp	Glu	Phe	Cys 310	Gln	Lys	Leu	Ser	Glu 315
Leu	Asp	Leu	Thr	Phe 320	Asn	His	Leu	Ser	Arg 325	Leu	Asp	Asp	Ser	Ser 330
Phe	Leu	Gly	Leu	Ser 335	Leu	Leu	Asn	Thr	Leu 340	His	Ile	Gly	Asn	Asn 345
Arg	Val	Ser	Tyr	Ile 350	Ala	Asp	Cys	Ala	Phe 355	Arg	Gly	Leu	Ser	Ser 360
Leu	Lys	Thr	Leu	Asp 365		Lys	Asn	Asn	Glu 370	Ile	Ser	Trp	Thr	Ile 375
Glu	Asp	Met	Asn	Gly 380		Phe	Ser	Gly	Leu 385	Asp	Lys	Leu	Arg	Arg 390
Leu	Ile	Leu	Gln	Gly 395		Arg	Ile	Arg	Ser 400	Ile	Thr	Lys	Lys	Ala 405
Phe	Thr	Gly	Leu	Asp 410		Leu	Glu	His	Leu 415	Asp	Leu	Ser	Asp	Asr. 420
Ala	Ile	Met	Ser	Leu 425		Gly	· Asn	Ala	Phe 430	ser	Gln	Met	. Lys	Lys 435
Leu	Gln	Gln	Leu	440		Asn	Thr	Ser	Ser 445	Leu	Leu	. Cys	a Asp	Cys 450
Gln	Leu	Lys	Trp	Leu 455		Gln	Trp	Val	. Ala 460	Glu	Asn	Asn	n Phe	Glr 465
Ser	Phe	val	Asn	Ala 470		Сув	: Ala	His	Pro 475	Gln	Leu	Let	ı Lys	Gly 480

Arg	Ser	Ile	Phe	Ala 485	Val	Ser	Pro	Asp	Gly 490	Phe	Val	Cys	Asp	Asp 495
Phe	Pro	Lys	Pro	Gln 500	Ile	Thr	Val	Gln	Pro 505	Glu	Thr	Gln	Ser	Ala 510
Ile	Lys	Gly	Ser	Asn 515	Leu	Ser	Phe	Ile	Cys 520	Ser	Ala	Ala	Ser	Ser 525
Ser	Asp	Ser	Pro	Met 530	Thr	Phe	Ala	Trp	Lys 535	Lys	Asp	Asn	Glu	Leu 540
Leu	His	Asp	Ala	Glu 545	Met	Glu	Asn	Tyr	Ala 550	His	Leu	Arg	Ala	Gln 555
Gly	Gly	Glu	Val	Met 560	Glu	Tyr	Thr	Thr	Ile 565	Leu	Arg	Leu	Arg	Glu 570
Val	Glu	Phe	Ala	Ser 575	Glu	Gly	Lys	Tyr	Gln 580	Cys	Val	Ile	Ser	Asn 585
His	Phe	Gly	Ser	Ser 590	Tyr	Ser	Val	Lys	Ala 595	Lys	Leu	Thr	Val.	Asn 600
Met	Leu	Pro	Ser	Phe 605	Thr	Lys	Thr	Pro	Met 610	Asp	Leu	Thr	Ile	Arg 615
				620					625				His	630
				635					640				Phe	645
				650					655				Asp	660
				665					670					Ser 675
				680					685					Thr 690
				695					700	1				705
-				710					715	;				720
_				725	i				730	)				735
Pro	Leu	ı Val	. Val	Thr 740		Arg	, His	Phe	Phe 745		a Ala	a Gly	/ Asn	750

Leu Leu	Ile	Ile	Val 755	Asp	Ser	Asp		Ser . 760	Asp .	Ala	Gly	Lys	Tyr <b>7</b> 65
Thr Cys	Glu	Met	Ser 770	Asn	Thr	Leu		Thr 775	Glu .	Arg	Gly	Asn	Val 780
Arg Leu	Ser	Val	Ile 785	Pro	Thr	Pro	Thr	Cys 790	Asp	Ser	Pro	Gln	Met 795
Thr Ala	Pro	Ser	Leu 800	Asp	Asp	Asp	Gly	Trp 805	Ala	Thr	Val	Gly	Val 810
Val Ile	Ile	Ala	Val 815	Val	Cys	Cys	Val	Val 820	Gly	Thr	Ser	Leu	Val 825
Trp Val	Val	Ile	Ile 830	Tyr	His	Thr	Arg	Arg 835	Arg	Asn	Glu	Asp	Cys 840
Ser Ile	Thr	Asn	Thr 845	Asp	Glu	Thr	Asn	Leu 850	Pro	Ala	Asp	Ile	Pro 855
Ser Tyr	Leu	Ser	Ser 860	Gln	Gly	Thr	Leu	Ala 865	Asp	Arg	Gln	Asp	Gly 870
Tyr Val	Ser	Ser	Glu 875	Ser	Gly	Ser	His	His 880	Gln	Phe	Val	Thr	Ser 885
Ser Gly	Ala	Gly	Phe 890	Phe	Leu	Pro	Gln	His 895	Asp	Ser	Ser	Gly	Thr 900
Cys His	Ile	Asp	Asn 905	Ser	Ser	Glu	Ala	Asp 910	Val	Glu	Ala	Ala	Thr 915
Asp Leu	Phe	Leu	. Cys 920		Phe	Leu	Gly	Ser 925	Thr	Gly	Pro	Met	Tyr 930
Leu Lys	Gly	Asn	Val 935		Gly	Ser	Asp	Pro 940	Phe	Glu	Thr	Tyr	His 945
Thr Gly	. Cys	Ser	950		Pro	Arg	Thr	Val 955	Leu	Met	Asp	His	Tyr 960
Glu Pro	Ser	Tyr	965		Lys	Lys	Glu	Cys 970	Tyr	Pro	Cys	Ser	His 975
Pro Ser	Glu	ı Glu	980		s Glu	ı Arg	Ser	Phe 985		Asn	Ile	e Ser	990
Pro Ser	His	s Val	995		Let	ı Leu		Thr 1000		Tyr	Ser	His	1005
Glu Gly	Pro	Gly	/ Met	Lys	s Asr	ı Lev	Cys	Leu	. Asn	Lys	Ser	Ser	Leu

1015 1020 1010 Asp Phe Ser Ala Asn Pro Glu Pro Ala Ser Val Ala Ser Ser Asn 1025 Ser Phe Met Gly Thr Phe Gly Lys Ala Leu Arg Arg Pro His Leu 1040 Asp Ala Tyr Ser Ser Phe Gly Gln Pro Ser Asp Cys Gln Pro Arg 1055 Ala Phe Tyr Leu Lys Ala His Ser Ser Pro Asp Leu Asp Ser Gly 1075 1070 Ser Glu Glu Asp Gly Lys Glu Arg Thr Asp Phe Gln Glu Glu Asn 1090 His Ile Cys Thr Phe Lys Gln Thr Leu Glu Asn Tyr Arg Thr Pro 1110 1105 Asn Phe Gln Ser Tyr Asp Leu Asp Thr 1115 <210> 295 <211> 18 <212> DNA <213> Artificial Sequence <220> <223> Synthetic Oligonucleotide Probe <400> 295 ggaaccgaat ctcagcta 18 <210> 296 <211> 19 <212> DNA <213> Artificial Sequence <220> <223> Synthetic Oligonucleotide Probe <400> 296 cctaaactga actggacca 19 <210> 297 <211> 19 <212> DNA <213> Artificial Sequence <220> <223> Synthetic Oligonucleotide Probe

```
<400> 297
ggctggagac actgaacct 19
<210> 298
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 298
 acagetgeae ageteagaae agtg 24
<210> 299
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 299
 cattcccagt ataaaaattt tc 22
<210> 300
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 300
 gggtcttggt gaatgagg 18
<210> 301
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 301
 gtgcctctcg gttaccacca atgg 24
<210> 302
<211> 50
<212> DNA
 <213> Artificial Sequence
```

```
<220>
<223> Synthetic Oligonucleotide Probe
<400> 302
gcggccactg ttggaccgaa ctgtaaccaa gggagaaaca gccgtcctac 50
<210> 303
<211> 28
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 303
 gcctttgaca accttcagtc actagtgg 28
<210> 304
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 304
 ccccatgtgt ccatgactgt tccc 24
<210> 305
<211> 45
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 305
 tactgcctca tgacctcttc actcccttgc atcatcttag agcgg 45
 <210> 306
 <211> 24
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic Oligonucleotide Probe
 <400> 306
  actccaagga aatcggatcc gttc 24
 <210> 307
 <211> 24
```

```
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 307
ttagcagctg aggatgggca caac 24
<210> 308
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 308
 actccaagga aatcggatcc gttc 24
<210> 309
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 309
 gccttcactg gtttggatgc attggagcat ctagacctga gtgacaacgc 50
<210> 310
<211> 3296
<212> DNA
<213> Homo Sapien
<400> 310
 caaaacttgc gtcgcggaga gcgcccagct tgacttgaat ggaaggagcc 50
 cgagcccgcg gagcgcagct gagactgggg gagcgcgttc ggcctgtggg 100
 gegeegeteg gegeeggge geageaggga aggggaaget gtggtetgee 150
 ctgctccacg aggcgccact ggtgtgaacc gggagagccc ctgggtggtc 200
 ccgtccccta tccctccttt atatagaaac cttccacact gggaaggcag 250
 cggcgaggca ggagggctca tggtgagcaa ggaggccggc tgatctgcag 300
 gcgcacagca ttccgagttt acagattttt acagatacca aatggaaggc 350
  gaggaggcag aacagcctgc ctggttccat cagccctggc gcccaggcgc 400
```

atctgactcg gcacccctg caggcaccat ggcccagagc cgggtgctgc 450 tgctcctgct gctgctgccg ccacagctgc acctgggacc tgtgcttgcc 500 gtgagggccc caggatttgg ccgaagtggc ggccacagcc tgagccccga 550 agagaacgaa tttgcggagg aggagccggt gctggtactg agccctgagg 600 agcccgggcc tggcccagcc gcggtcagct gcccccgaga ctgtgcctgt 650 tcccaggagg gcgtcgtgga ctgtggcggt attgacctgc gtgagttccc 700 gggggacctg cctgagcaca ccaaccacct atctctgcag aacaaccagc 750 tggaaaagat ctaccctgag gagctctccc ggctgcaccg gctggagaca 800 ctgaacctgc aaaacaaccg cctgacttcc cgagggctcc cagagaaggc 850 gtttgagcat ctgaccaacc tcaattacct gtacttggcc aataacaagc 900 tgaccttggc accccgcttc ctgccaaacg ccctgatcag tgtggacttt 950 gctgccaact atctcaccaa gatctatggg ctcacctttg gccagaagcc 1000 aaacttgagg tetgtgtace tgcacaacaa caagetggea gaegeeggge 1050 tgccggacaa catgttcaac ggctccagca acgtcgaggt cctcatcctg 1100 tccagcaact tcctgcgcca cgtgcccaag cacctgccgc ctgccctgta 1150 caagetgeae eteaagaaca acaagetgga gaagateeee eegggggeet 1200 tcagcgagct gagcagcctg cgcgagctat acctgcagaa caactacctg 1250 actgacgagg gcctggacaa cgagaccttc tggaagctct ccagcctgga 1300 gtacctggat ctgtccagca acaacctgtc tcgggtccca gctgggctgc 1350 cgcgcagcct ggtgctgctg cacttggaga agaacgccat ccggagcgtg 1400 gacgcgaatg tgctgacccc catccgcagc ctggagtacc tgctgctgca 1450 cagcaaccag ctgcgggagc agggcatcca cccactggcc ttccagggcc 1500 tcaagcggtt gcacacggtg cacctgtaca acaacgcgct ggagcgcgtg 1550 cccagtggcc tgcctcgccg cgtgcgcacc ctcatgatcc tgcacaacca 1600 gatcacaggc attggccgcg aagactttgc caccacctac ttcctggagg 1650 ageteaacet cagetacaac egeateacea geceacaggt geacegegae 1700 gccttccgca agctgcgcct gctgcgctcg ctggacctgt cgggcaaccg 1750 gctgcacacg ctgccacctg ggctgcctcg aaatgtccat gtgctgaagg 1800 tcaagcgcaa tgagctggct gccttggcac gaggggcgct ggcgggcatg 1850 gctcagctgc gtgagctgta cctcaccagc aaccgactgc gcagccgagc 1900 cctgggcccc cgtgcctggg tggacctcgc ccatctgcag ctgctggaca 1950 tegeegggaa teageteaca gagateeeeg aggggeteee egagteactt 2000 gagtacctgt acctgcagaa caacaagatt agtgcggtgc ccgccaatgc 2050 cttcgactcc acgcccaacc tcaaggggat ctttctcagg tttaacaagc 2100 tggctgtggg ctccgtggtg gacagtgcct tccggaggct gaagcacctg 2150 caggtcttgg acattgaagg caacttagag tttggtgaca tttccaagga 2200 aggaagagga aacaagatag tgacaaggtg atgcagatgt gacctaggat 2300 gatggaccgc cggactcttt tctgcagcac acgcctgtgt gctgtgagcc 2350 ccccactctg ccgtgctcac acagacacac ccagctgcac acatgaggca 2400 teccaeatga caegggetga caeagtetea tateceeace eetteccaeg 2450 gegtgteeca eggeeagaea catgeacaea cateacaeee teaaacaeee 2500 ageteageea cacacaacta ecetecaaac caccacagte tetgteacac 2550 ccccactacc gctgccacgc cctctgaatc atgcagggaa gggtctgccc 2600 ctgccctggc acacacaggc acccattccc tccccctgct gacatgtgta 2650 tgcgtatgca tacacaccac acacacaca atgcacaagt catgtgcgaa 2700 cageceteca aageetatge cacagacage tettgeecca gecagaatea 2750 gccatagcag ctcgccgtct gccctgtcca tctgtccgtc cgttccctgg 2800 agaagacaca agggtatcca tgctctgtgg ccaggtgcct gccaccctct 2850 ggaactcaca aaagctggct tttattcctt tcccatccta tggggacagg 2900 agcetteagg actgetggee tggeetggee caccetgete etccaggtge 2950 tgggcagtca ctctgctaag agtccctccc tgccacgccc tggcaggaca 3000 caggcacttt tccaatgggc aagcccagtg gaggcaggat gggagagccc 3050

```
cctgggtgct gctggggcct tggggcagga gtgaagcaga ggtgatgggg 3100
ctgggctgag ccagggagga aggacccagc tgcacctagg agacaccttt 3150
gttcttcagg cctgtggggg aagttccggg tgcctttatt ttttattctt 3200
ttctaaggaa aaaaatgata aaaatctcaa agctgatttt tcttgttata 3250
gaaaaactaa tataaaagca ttatccctat ccctgcaaaa aaaaaa 3296
<210> 311
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 311
gcattggccg cgagactttg cc 22
<210> 312
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 312
 gcggccacgg tccttggaaa tg 22
<210> 313
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 313
 tggaggaget caaceteage tacaacegea teaceageee acagg 45
<210> 314
<211> 3003
<212> DNA
<213> Homo Sapien
<400> 314
 gggaggggc teegggegee gegeageaga cetgeteegg eegegeeet 50
```

cgccgctgtc ctccgggagc ggcagcagta gcccgggcgg cgagggctgg 100

gggttcctcg agactctcag aggggcgcct cccatcggcg cccaccaccc 150 caacctgttc ctcgcgcgcc actgcgctgc gccccaggac ccgctgccca 200 acatggattt teteetggeg etggtgetgg tateeteget etaeetgeag 250 geggeegeeg agttegaegg gaggtggeee aggeaaatag tgteategat 300 tggcctatgt cgttatggtg ggaggattga ctgctgctgg ggctgggctc 350 gccagtcttg gggacagtgt cagcctgtgt gccaaccacg atgcaaacat 400 ggtgaatgta tcgggccaaa caagtgcaag tgtcatcctg gttatgctgg 450 aaaaacctgt aatcaagatc taaatgagtg tggcctgaag ccccggccct 500 gtaagcacag gtgcatgaac acttacggca gctacaagtg ctactgtctc 550 aacggatata tgctcatgcc ggatggttcc tgctcaagtg ccctgacctg 600 ctccatggca aactgtcagt atggctgtga tgttgttaaa ggacaaatac 650 ggtgccagtg cccatcccct ggcctgcacc tggctcctga tgggaggacc 700 tgtgtagatg ttgatgaatg tgctacagga agagcctcct gccctagatt 750 taggcaatgt gtcaacactt ttgggagcta catctgcaag tgtcataaag 800 gcttcgatct catgtatatt ggaggcaaat atcaatgtca tgacatagac 850 gaatgctcac ttggtcagta tcagtgcagc agctttgctc gatgttataa 900 cgtacgtggg tcctacaagt gcaaatgtaa agaaggatac cagggtgatg 950 gactgacttg tgtgtatatc ccaaaagtta tgattgaacc ttcaggtcca 1000 attcatgtac caaagggaaa tggtaccatt ttaaagggtg acacaggaaa 1050 taataattgg attcctgatg ttggaagtac ttggtggcct ccgaagacac 1100 catatattcc tcctatcatt accaacaggc ctacttctaa gccaacaaca 1150 agacctacac caaagccaac accaattect actecaccac caccaccacc 1200 cctgccaaca gagctcagaa cacctctacc acctacaacc ccagaaaggc 1250 caaccaccgg actgacaact atagcaccag ctgccagtac acctccagga 1300 gggattacag ttgacaacag ggtacagaca gaccctcaga aacccagagg 1350 agatgtgttc agtgttctgg tacacagttg taattttgac catggacttt 1400

gtggatggat cagggagaaa gacaatgact tgcactggga accaatcagg 1450 gacccagcag gtggacaata tctgacagtg tcggcagcca aagccccagg 1500 gggaaaaget geacgettgg tgetacetet eggeegeete atgeatteag 1550 gggacctgtg cctgtcattc aggcacaagg tgacggggct gcactctggc 1600 acactccagg tgtttgtgag aaaacacggt gcccacggag cagccctgtg 1650 gggaagaaat ggtggccatg gctggaggca aacacagatc accttgcgag 1700 gggctgacat caagagcgaa tcacaaagat gattaaaggg ttggaaaaaa 1750 agatctatga tggaaaatta aaggaactgg gattattgag cctggagaag 1800 agaagactga ggggcaaacc attgatggtt ttcaagtata tgaagggttg 1850 gcacagagag ggtggcgacc agctgttctc catatgcact aagaatagaa 1900 caagaggaaa ctggcttaga ctagagtata agggagcatt tcttggcagg 1950 ggccattgtt agaatacttc ataaaaaaag aagtgtgaaa atctcagtat 2000 ctctctctct ttctaaaaaa ttagataaaa atttgtctat ttaagatggt 2050 taaagatgtt cttacccaag gaaaagtaac aaattataga atttcccaaa 2100 agatgttttg atcctactag tagtatgcag tgaaaatctt tagaactaaa 2150 taatttggac aaggettaat ttaggeattt ceetettgac eteetaatgg 2200 agagggattg aaaggggaag agcccaccaa atgctgagct cactgaaata 2250 tctctccctt atggcaatcc tagcagtatt aaagaaaaaa ggaaactatt 2300 tattccaaat gagagtatga tggacagata ttttagtatc tcagtaatgt 2350 cctagtgtgg cggtggtttt caatgtttct tcatggtaaa ggtataagcc 2400 tttcatttgt tcaatggatg atgtttcaga ttttttttt tttaagagat 2450 ccttcaagga acacagttca gagagatttt catcgggtgc attctctctg 2500 cttcgtgtgt gacaagttat cttggctgct gagaaagagt gccctgcccc 2550 acaccggcag acctttcctt cacctcatca gtatgattca gtttctctta 2600 tcaattggac tctcccaggt tccacagaac agtaatattt tttgaacaat 2650 aggtacaata gaaggtette tgteatttaa eetggtaaag geagggetgg 2700 agggggaaaa taaatcatta agcctttgag taacggcaga atatatggct 2750

gtagatccat ttttaatggt tcatttcctt tatggtcata taactgcaca 2800 gctgaagatg aaaggggaaa ataaatgaaa attttacttt tcgatgccaa 2850 tgatacattg cactaaactg atggaagaag ttatccaaag tactgtataa 2900 catcttgttt attattaat gttttctaaa ataaaaaatg ttagtggttt 2950 tccaaatggc ctaataaaaa caattatttg taaataaaaa cactgttagt 3000 aat 3003

<210> 315

<211> 509

<212> PRT

<213> Homo Sapien

<400> 315

Met Asp Phe Leu Leu Ala Leu Val Leu Val Ser Ser Leu Tyr Leu 1 5 10 15

Gln Ala Ala Glu Phe Asp Gly Arg Trp Pro Arg Gln Ile Val 20 25 30

Ser Ser Ile Gly Leu Cys Arg Tyr Gly Gly Arg Ile Asp Cys Cys 35 40 45

Trp Gly Trp Ala Arg Gln Ser Trp Gly Gln Cys Gln Pro Val Cys
50 55 60

Gln Pro Arg Cys Lys His Gly Glu Cys Ile Gly Pro Asn Lys Cys
65 70 75

Lys Cys His Pro Gly Tyr Ala Gly Lys Thr Cys Asn Gln Asp Leu 80 85 90

Asn Glu Cys Gly Leu Lys Pro Arg Pro Cys Lys His Arg Cys Met

95 100 105

Asn Thr Tyr Gly Ser Tyr Lys Cys Tyr Cys Leu Asn Gly Tyr Met 110 115 120

Leu Met Pro Asp Gly Ser Cys Ser Ser Ala Leu Thr Cys Ser Met 125 130 135

Ala Asn Cys Gln Tyr Gly Cys Asp Val Val Lys Gly Gln Ile Arg 140 145 150

Cys Gln Cys Pro Ser Pro Gly Leu His Leu Ala Pro Asp Gly Arg 155 160 165

Chr	Cys	Val	Asp	Val 170	Asp	Glu	Cys	Ala	Thr 175	Gly	Arg	Ala	Ser	Cys 180
Pro	Arg	Phe	Arg	Gln 185	Cys	Val	Asn	Thr	Phe 190	Gly	Ser	Tyr	Ile	Cys 195
Lys	Cys	His	Lys	Gly 200	Phe	Asp	Leu	Met	Tyr 205	Ile	Gly	Gly	Lys	Tyr 210
Gln	Cys	His	Asp	Ile 215	Asp	Glu	Cys	Ser	Leu 220	Gly	Gln	Tyr	Gln	Cys 225
Ser	Ser	Phe	Ala	Arg 230	Cys	Tyr	Asn	Val	Arg 235	Gly	Ser	Tyr	Lys	Cys 240
Lys	Cys	Lys	Glu	Gly 245	Tyr	Gln	Gly	Asp	Gly 250	Leu	Thr	Cys	Val	Tyr 255
Ile	Pro	Lys	Val	Met 260	Ile	Glu	Pro	Ser	Gly 265	Pro	Ile	His	Val	Pro 270
Lys	Gly	Asn	Gly	Thr 275	Ile	Leu	Lys	Gly	Asp 280	Thr	Gly	Asn	Asn	Asn 285
Trp	Ile	Pro	Asp	Val 290	Gly	Ser	Thr	Trp	Trp 295	Pro	Pro	Lys	Thr	Pro 300
Tyr	Ile	Pro	Pro	Ile 305		Thr	Asn	Arg	Pro 310		Ser	Lys	Pro	Thr 315
Thr	Arg	Pro	Thr	Pro 320		Pro	Thr	Pro	Ile 325	Pro	Thr	Pro	Pro	Pro 330
Pro	Pro	Pro	Leu	Pro 335		Glu	. Leu	Arg	Thr 340		Leu	Pro	Pro	Thr 345
Thr	Pro	Glu	a Arg	9ro 350		Thr	Gly	Leu	355		Ile	Ala	Pro	Ala 360
Ala	Ser	Thi	r Pro	Pro 365		gly	' Ile	Thr	Val 370	. Asp	) Asn	Arg	Val	Glr 375
Thr	Asp	Pro	Gln	1 Lys 380		Arg	g Gly	Asp	Val 385		e Ser	· Val	Leu	Val 390
			s Asn	395	5				400	)				405
Lys	a Asp	) Ası	n Asp	Leu 410		s Trp	o Glu	ı Pro	415		g Asp	Pro	) Ala	420
G1s	, Glr	<b>ነ ጥ</b> ኒን፣	r Lei	ı Thi	r Vai	l Sei	r Ala	a Alā	ı Lys	s Ala	a Pro	o Gly	/ Gly	z Ly:

				425					430					435
Ala	Ala	Arg	Leu	Val 440	Leu	Pro	Leu	Gly	Arg 445	Leu	Met	His	Ser	Gly 450
Asp	Leu	Cys	Leu	Ser 455	Phe	Arg	His	Lys	Val 460	Thr	Gly	Leu	His	Ser 465
Gly	Thr	Leu	Gln	Val 470	Phe	Val	Arg	Lys	His 475	Gly	Ala	His	Gly	Ala 480
Ala	Leu	Trp	Gly	Arg 485	Asn	Gly	Gly	His	Gly 490	Trp	Arg	Gln	Thr	Gln 495
Ile	Thr	Leu	Arg	Gly 500	Ala	Asp	Ile	Lys	Ser 505	Glu	Ser	Gln	Arg	
<210: <211: <212: <213: <220:	> 24 > DN > Ar	A	cial	Seq	uenc	e								
<223	> Sy	nthe	tic	Olig	onuc	leot	ide	Prob	е					
<400 gat			gctc	aagt	gc c	ctg	24							
<210 <211	> 24													
<212 <213			cial	Seq	uenc	е								
<220 <223		nthe	tic	Olig	onuc	leot	ide	Prob	е					
<400 ttg			agga	.ccca	.cg t	acg	24							
<210 <211														
<212			cial	Sen	nenc	۵.								
		(111	.CIAI	beg	uciic									
<220 <223		nthe	etic	Olig	onuc	leot	ide	Prob	e					
<400 ctg			gaco	tgtg	ıta <u>c</u>	jatgt	tgat	g aa	ıtgtç	gctad	c agg	gaaga	agcc	50
<210 <211 <212	> 21	10												

## <213> Homo Sapien

<400> 319 cttctttgaa aaggattatc acctgatcag gttctctctg catttgcccc 50 tttagattgt gaaatgtggc tcaaggtctt cacaactttc ctttcctttg 100 caacaggtgc ttgctcgggg ctgaaggtga cagtgccatc acacactgtc 150 catggcgtca gaggtcaggc cctctaccta cccgtccact atggcttcca 200 cactecagea teagacatee agateatatg getatttgag agaeeecaea 250 caatgcccaa atacttactg ggctctgtga ataagtctgt ggttcctgac 300 ttggaatacc aacacaagtt caccatgatg ccacccaatg catctctgct 350 tatcaaccca ctgcagttcc ctgatgaagg caattacatc gtgaaggtca 400 acattcaggg aaatggaact ctatctgcca gtcagaagat acaagtcacg 450 gttgatgatc ctgtcacaaa gccagtggtg cagattcatc ctccctctgg 500 ggctgtggag tatgtgggga acatgaccct gacatgccat gtggaagggg 550 gcactcggct agcttaccaa tggctaaaaa atgggagacc tgtccacacc 600 agetecacet acteetttte teeccaaaac aataceette atattgetee 650 agtaaccaag gaagacattg ggaattacag ctgcctggtg aggaaccctg 700 tcagtgaaat ggaaagtgat atcattatgc ccatcatata ttatggacct 750 tatggacttc aagtgaattc tgataaaggg ctaaaagtag gggaagtgtt 800 tactgttgac cttggagagg ccatcctatt tgattgttct gctgattctc 850 atcccccaa cacctactcc tggattagga ggactgacaa tactacatat 900 atcattaagc atgggcctcg cttagaagtt gcatctgaga aagtagccca 950 gaagacaatg gactatgtgt gctgtgctta caacaacata accggcaggc 1000 aagatgaaac tcatttcaca gttatcatca cttccgtagg actggagaag 1050 cttgcacaga aaggaaaatc attgtcacct ttagcaagta taactggaat 1100 atcactattt ttgattatat ccatgtgtct tctcttccta tggaaaaaat 1150 atcaacccta caaagttata aaacagaaac tagaaggcag gccagaaaca 1200 gaatacagga aagctcaaac attttcaggc catgaagatg ctctggatga 1250

cttcggaata tatgaatttg ttgcttttcc agatgtttct ggtgtttcca 1300 ggattccaag caggtctgtt ccagcctctg attgtgtatc ggggcaagat 1350 ttgcacagta cagtgtatga agttattcag cacatccctg cccagcagca 1400 agaccatcca gagtgaactt tcatgggcta aacagtacat tcgagtgaaa 1450 ttctgaagaa acattttaag gaaaaacagt ggaaaagtat attaatctgg 1500 aatcagtgaa gaaaccagga ccaacacctc ttactcatta ttcctttaca 1550 tgcagaatag aggcatttat gcaaattgaa ctgcaggttt ttcagcatat 1600 acacaatgtc ttgtgcaaca gaaaaacatg ttggggaaat attcctcagt 1650 ggagagtcgt tctcatgctg acggggagaa cgaaagtgac aggggtttcc 1700 tcataagttt tgtatgaaat atctctacaa acctcaatta gttctactct 1750 acactttcac tatcatcaac actgagacta teetgtetca eetacaaatg 1800 tggaaacttt acattgttcg atttttcagc agactttgtt ttattaaatt 1850 tttattagtg ttaagaatgc taaatttatg tttcaatttt atttccaaat 1900 ttctatcttg ttatttgtac aacaaagtaa taaggatggt tgtcacaaaa 1950 acaaaactat gccttctctt ttttttcaat caccagtagt atttttgaga 2000 agacttgtga acacttaagg aaatgactat taaagtctta tttttatttt 2050 tttcaaggaa agatggattc aaataaatta ttctgttttt gcttttaaaa 2100 aaaaaaaaa 2110

<210> 320

<211> 450

<212> PRT

<213> Homo Sapien

<400> 320

Met Trp Leu Lys Val Phe Thr Thr Phe Leu Ser Phe Ala Thr Gly
1 5 10 15

Ala Cys Ser Gly Leu Lys Val Thr Val Pro Ser His Thr Val His
20 25 30

Gly Val Arg Gly Gln Ala Leu Tyr Leu Pro Val His Tyr Gly Phe
35 40 45

His Thr Pro Ala Ser Asp Ile Gln Ile Ile Trp Leu Phe Glu Arg
50 55 60

Pro His Thr	Met Pro	Lys 1	Tyr L	eu Leu	Gly 70	Ser	Val	Asn	Lys	Ser 75
Val Val Pro	Asp Leu 80	Glu T	Fyr G	ln His	Lys 85	Phe	Thr	Met	Met	Pro 90
Pro Asn Ala	Ser Leu 95		Ile A	sn Pro	Leu 100	Gln	Phe	Pro	Asp	Glu 105
Gly Asn Tyr	Ile Val	Lys V	Val A	sn Ile	Gln 115	Gly	Asn	Gly	Thr	Leu 120
Ser Ala Ser	Gln Lys 125	Ile(	Gln V	al Thr	Val 130	Asp	Asp	Pro	Val	Thr 135
Lys Pro Val	Val Gln 140	Ile H	His P	ro Pro	Ser 145	Gly	Ala	Val	Glu	Tyr 150
Val Gly Asn	Met Thr 155	Leu 7	Thr C	ys His	Val 160	Glu	Gly	Gly	Thr	Arg 165
Leu Ala Tyr	Gln Trp		Lys A	sn Gly	Arg 175	Pro	Val	His	Thr	Ser 180
Ser Thr Tyr	Ser Phe		Pro G	ln Asn	Asn 190	Thr	Leu	His	Ile	Ala 195
Pro Val Thr	Lys Glu 200	_	Ile G	ly Asn	Tyr 205	Ser	Cys	Leu	Val	Arg 210
Asn Pro Val	Ser Glu 215		Glu S	er Asp	Ile 220	Ile	Met	Pro	Ile	Ile 225
Tyr Tyr Gly	Pro Tyr 230		Leu G	ln Val	Asn 235	Ser	Asp	Lys	Gly	Leu 240
Lys Val Gly	Glu Val 245		Thr V	al Asp	Leu 250	Gly	Glu	Ala	Ile	Leu 255
Phe Asp Cys	Ser Ala 260	_	Ser H	is Pro	Pro 265	Asn	Thr	Tyr	Ser	Trp 270
Ile Arg Arg	Thr Asp 275		Thr T	hr Tyr	Ile 280	Ile	Lys	His	Gly	Pro 285
Arg Leu Glu	Val Ala 290		Glu L	ys Val	Ala 295	Gln	Lys	Thr	Met	Asp 300
Tyr Val Cys	Cys Ala 305		Asn A	sn Ile	Thr 310	Gly	Arg	Gln	Asp	Glu 315
Thr His Phe	Thr Val	Ile I	Ile T	hr Ser	Val	Gly	Leu	Glu	Lys	Leu

				320					325					330
Ala	Gln	Lys	Gly	Lys 335	Ser	Leu	Ser	Pro	Leu 340	Ala	Ser	Ile	Thr	Gly 345
Ile	Ser	Leu	Phe	Leu 350	Ile	Ile	Ser	Met	Cys 355	Leu	Leu	Phe	Leu	Trp 360
Lys	Lys	Tyr	Gln	Pro 365	Tyr	Lys	Val	Ile	Lys 370	Gln	Lys	Leu	Glu	Gly 375
Arg	Pro	Glu	Thr	Glu 380	Tyr	Arg	Lys	Ala	Gln 385	Thr	Phe	Ser	Gly	His 390
Glu	Asp	Ala	Leu	Asp 395	Asp	Phe	Gly	Ile	Tyr 400	Glu	Phe	Val	Ala	Phe 405
Pro	Asp	Val	Ser	Gly 410	Val	Ser	Arg	Ile	Pro 415	Ser	Arg	Ser	Val	Pro 420
Ala	Ser	Asp	Cys	Val 425	Ser	Gly	Gln	Asp	Leu 430	His	Ser	Thr	Val	Tyr 435
Glu	Val	Ile	Gln	His 440	Ile	Pro	Ala	Gln	Gln 445	Gln	Asp	His	Pro	Glu 450
<210><211><211><212><213>	25 DN2	A	cial	Sequ	1ence	Э								
<220> <223>		nthet	cic (	Oligo	onucl	Leot:	ide 1	Probe	€					
<400> gato		l cca d	caaaq	gccag	gt gg	gtgc	25							
<210>	322	2												
<211><212><213>	DNA		cial	Sequ	ience	e								
<220> <223>		nthet	cic (	Oligo	onucl	Leot	ide 1	Prob∈	Э					
<400> cact			gttco	ctcac	ec ca	agg 2	24							
<210><211><211><212><213>	45 DNA	Ą	cial	Sequ	ıence	e								

<220> <223> Synthetic Oligonucleotide Probe <400> 323 ctccctctgg gctgtggagt atgtggggaa catgaccctg acatg 45 <210> 324 <211> 2397 <212> DNA <213> Homo Sapien <400> 324 gcaageggeg aaatggegee eteegggagt ettgeagtte eeetggeagt 50 cetggtgetg ttgetttggg gtgetecetg gaegeaeggg eggeggagea 100 acgttcgcgt catcacggac gagaactgga gagaactgct ggaaggagac 150 tggatgatag aattttatgc cccgtggtgc cctgcttgtc aaaatcttca 200 accggaatgg gaaagttttg ctgaatgggg agaagatctt gaggttaata 250 ttgcgaaagt agatgtcaca gagcagccag gactgagtgg acggtttatc 300 ataactgctc ttcctactat ttatcattgt aaagatggtg aatttaggcg 350 ctatcagggt ccaaggacta agaaggactt cataaacttt ataagtgata 400 aagagtggaa gagtattgag cccgtttcat catggtttgg tccaggttct 450 gttctgatga gtagtatgtc agcactcttt cagctatcta tgtggatcag 500 gacgtgccat aactacttta ttgaagacct tggattgcca gtgtggggat 550 catatactgt ttttgcttta gcaactctgt tttccggact gttattagga 600 ctctgtatga tatttgtggc agattgcctt tgtccttcaa aaaggcgcag 650 accacagcca tacccatacc cttcaaaaaa attattatca gaatctgcac 700 aacctttgaa aaaagtggag gaggaacaag aggcggatga agaagatgtt 750 tcagaagaag aagctgaaag taaagaagga acaaacaaag actttccaca 800 gaatgccata agacaacgct ctctgggtcc atcattggcc acagataaat 850 cctagttaaa ttttatagtt atcttaatat tatgattttg ataaaaacag 900 aagattgatc attttgtttg gtttgaagtg aactgtgact tttttgaata 950

ttgcagggtt cagtctagat tgtcattaaa ttgaagagtc tacattcaga 1000

acataaaagc actaggtata caagtttgaa atatgattta agcacagtat 1050 gatggtttaa atagttetet aatttttgaa aaategtgee aageaataag 1100 atttatqtat atttqtttaa taataaccta tttcaaqtct qaqttttqaa 1150 aatttacatt teecaagtat tgeattattg aggtatttaa gaagattatt 1200 ttagagaaaa atatttetea tttgatataa tttttetetg ttteaetgtg 1250 tgaaaaaaag aagatatttc ccataaatgg gaagtttgcc cattgtctca 1300 agaaatgtgt atttcagtga caatttcgtg gtctttttag aggtatattc 1350 caaaatttcc ttgtattttt aggttatgca actaataaaa actaccttac 1400 attaattaat tacagttttc tacacatggt aatacaggat atgctactga 1450 tttaggaagt ttttaagttc atggtattct cttgattcca acaaagtttg 1500 attttctctt qtatttttct tacttactat qqqttacatt ttttattttt 1550 caaattggat gataatttct tggaaacatt ttttatgttt tagtaaacag 1600 tatttttttg ttgtttcaaa ctgaagttta ctgagagatc catcaaattg 1650 aacaatctqt tqtaatttaa aattttqqcc acttttttca qattttacat 1700 cattettget gaactteaac ttgaaattgt tttttttttc tttttggatg 1750 tgaaggtgaa cattcctgat ttttgtctga tgtgaaaaag ccttggtatt 1800 ttacattttg aaaattcaaa gaagcttaat ataaaagttt gcattctact 1850 caqqaaaaaq catcttcttq tatatqtctt aaatqtattt ttqtcctcat 1900 atacagaaag ttcttaattg attttacagt ctgtaatgct tgatgtttta 1950 aaataataac atttttatat tttttaaaag acaaacttca tattatcctg 2000 tgttctttcc tgactggtaa tattgtgtgg gatttcacag gtaaaagtca 2050 gtaggatgga acattttagt gtatttttac teettaaaga getagaatac 2100 atagttttca ccttaaaaga agggggaaaa tcataaatac aatgaatcaa 2150 ctgaccatta cgtagtagac aatttctgta atgtcccctt ctttctaggc 2200 tctgttgctg tgtgaatcca ttagatttac agtatcgtaa tatacaagtt 2250 ttctttaaag ccctctcctt tagaatttaa aatattgtac cattaaagag 2300 tttggatgtg taacttgtga tgccttagaa aaatatccta aqcacaaaat 2350 aaacctttct aaccacttca ttaaagctga aaaaaaaaa aaaaaaa 2397

<210> 325

<211> 280

<212> PRT

<213> Homo Sapien

<400> 325

Met Ala Pro Ser Gly Ser Leu Ala Val Pro Leu Ala Val Leu Val 1 5 10 15

Leu Leu Leu Trp Gly Ala Pro Trp Thr His Gly Arg Arg Ser Asn
20 25 30

Val Arg Val Ile Thr Asp Glu Asn Trp Arg Glu Leu Leu Glu Gly 35 40 45

Asp Trp Met Ile Glu Phe Tyr Ala Pro Trp Cys Pro Ala Cys Gln 50 55 60

Asn Leu Gln Pro Glu Trp Glu Ser Phe Ala Glu Trp Gly Glu Asp
65 70 75

Leu Glu Val Asn Ile Ala Lys Val Asp Val Thr Glu Gln Pro Gly 80 85 90

Leu Ser Gly Arg Phe Ile Ile Thr Ala Leu Pro Thr Ile Tyr His
95 100 105

Cys Lys Asp Gly Glu Phe Arg Arg Tyr Gln Gly Pro Arg Thr Lys 110 115 120

Lys Asp Phe Ile Asn Phe Ile Ser Asp Lys Glu Trp Lys Ser Ile 125 130 135

Glu Pro Val Ser Ser Trp Phe Gly Pro Gly Ser Val Leu Met Ser 140 145 150

Ser Met Ser Ala Leu Phe Gln Leu Ser Met Trp Ile Arg Thr Cys 155 160 165

His Asn Tyr Phe Ile Glu Asp Leu Gly Leu Pro Val Trp Gly Ser 170 175 180

Tyr Thr Val Phe Ala Leu Ala Thr Leu Phe Ser Gly Leu Leu Leu 185 190 195

Gly Leu Cys Met Ile Phe Val Ala Asp Cys Leu Cys Pro Ser Lys 200 205 210

Arg Arg Pro Gln Pro Tyr Pro Tyr Pro Ser Lys Lys Leu Leu

215 220 225 Ser Glu Ser Ala Gln Pro Leu Lys Lys Val Glu Glu Glu Glu Glu 235 Ala Asp Glu Glu Asp Val Ser Glu Glu Glu Ala Glu Ser Lys Glu 245 Gly Thr Asn Lys Asp Phe Pro Gln Asn Ala Ile Arg Gln Arg Ser 260 Leu Gly Pro Ser Leu Ala Thr Asp Lys Ser 275 <210> 326 <211> 23 <212> DNA <213> Artificial Sequence <220> <223> Synthetic Oligonucleotide Probe <400> 326 tgaggtggc aagcggcgaa atg 23 <210> 327 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Synthetic Oligonucleotide Probe <400> 327 tatgtggatc aggacgtgcc 20 <210> 328 <211> 21 <212> DNA <213> Artificial Sequence <223> Synthetic Oligonucleotide Probe <400> 328 tgcagggttc agtctagatt g 21 <210> 329 <211> 25 <212> DNA <213> Artificial Sequence

```
<220>
<223> Synthetic Oligonucleotide Probe
<400> 329
ttgaaggaca aaggcaatct gccac 25
<210> 330
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 330
ggagtcttgc agttcccctg gcagtcctgg tgctgttgct ttggg 45
<210> 331
<211> 2168
<212> DNA
<213> Homo Sapien
<400> 331
 gcgagtgtcc agctgcggag acccgtgata attcgttaac taattcaaca 50
 aacgggaccc ttctgtgtgc cagaaaccgc aagcagttgc taacccagtg 100
 ggacaggegg attggaagag egggaaggte etggeecaga geagtgtgde 150
 acttccctct gtgaccatga aactctgggt gtctgcattg ctgatggcct 200
 ggtttggtgt cctgagctgt gtgcaggccg aattcttcac ctctattggg 250
 cacatgactg acctgattta tgcagagaaa gagctggtgc agtctctgaa 300
 agagtacatc cttgtggagg aagccaagct ttccaagatt aagagctggg 350
 ccaacaaaat ggaagccttg actagcaagt cagctgctga tgctgagggc 400
 tacctggctc accctgtgaa tgcctacaaa ctggtgaagc ggctaaacac 450
 agactggcct gcgctggagg accttgtcct gcaggactca gctgcaggtt 500
 ttatcgccaa cctctctgtg cagcggcagt tcttccccac tgatgaggac 550
 gagataggag ctgccaaagc cctgatgaga cttcaggaca catacaggct 600
 ggacccaggc acaatttcca gaggggaact tccaggaacc aagtaccagg 650
 caatgctgag tgtggatgac tgctttggga tgggccgctc ggcctacaat 700
 gaaggggact attatcatac ggtgttgtgg atggagcagg tgctaaagca 750
```

gcttgatgcc ggggaggagg ccaccacaac caagtcacag gtgctggact 800 acctcagcta tgctgtcttc cagttgggtg atctgcaccg tgccctggag 850 ctcacccgcc gcctgctctc ccttgaccca agccacgaac gagctggagg 900 gaatctgcgg tactttgagc agttattgga ggaagagaga gaaaaaacgt 950 taacaaatca gacagaagct gagctagcaa ccccagaagg catctatgag 1000 aggcctgtgg actacctgcc tgagagggat gtttacgaga gcctctgtcg 1050 tggggagggt gtcaaactga cacccgtag acagaagagg cttttctgta 1100 ggtaccacca tggcaacagg gccccacagc tgctcattgc ccccttcaaa 1150 gaggaggacg agtgggacag cccgcacatc gtcaggtact acgatgtcat 1200 gtctgatgag gaaatcgaga ggatcaagga gatcgcaaaa cctaaacttg 1250 cacgagecae egttegtgat cecaagacag gagteeteae tgtegecage 1300 taccgggttt ccaaaagctc ctggctagag gaagatgatg accctgttgt 1350 ggcccgagta aatcgtcgga tgcagcatat cacagggtta acagtaaaga 1400 ctgcagaatt gttacaggtt gcaaattatg gagtgggagg acagtatgaa 1450 ccgcacttcg acttctctag gcgacctttt gacagcggcc tcaaaacaga 1500 ggggaatagg ttagcgacgt ttcttaacta catgagtgat gtagaagctg 1550 gtggtgccac cgtcttccct gatctggggg ctgcaatttg gcctaagaag 1600 ggtacagctg tgttctggta caacctcttg cggagcgggg aaggtgacta 1650 ccgaacaaga catgctgcct gccctgtgct tgtgggctgc aagtgggtct 1700 ccaataagtg gttccatgaa cgaggacagg agttcttgag accttgtgga 1750 tcaacagaag ttgactgaca tccttttctg tccttcccct tcctggtcct 1800 tcagcccatg tcaacgtgac agacaccttt gtatgttcct ttgtatgttc 1850 ctatcaggct gatttttgga gaaatgaatg tttgtctgga gcagagggag 1900 accatactag ggcgactcct gtgtgactga agtcccagcc cttccattca 1950 gcctgtgcca tccctggccc caaggctagg atcaaagtgg ctgcagcaga 2000 gttagctgtc tagcgcctag caaggtgcct ttgtacctca ggtgttttag 2050 gtgtgagatg tttcagtgaa ccaaagttct gataccttgt ttacatgttt 2100 gtttttatgg catttctatc tattgtggct ttaccaaaaa ataaaatgtc 2150 cctaccagaa aaaaaaaa 2168

- <210> 332
- <211> 533
- <212> PRT
- <213> Homo Sapien
- <400> 332
- Met Lys Leu Trp Val Ser Ala Leu Leu Met Ala Trp Phe Gly Val

  1 5 10 15
- Leu Ser Cys Val Gln Ala Glu Phe Phe Thr Ser Ile Gly His Met 20 25 30
- Thr Asp Leu Ile Tyr Ala Glu Lys Glu Leu Val Gln Ser Leu Lys
  35 40 45
- Glu Tyr Ile Leu Val Glu Glu Ala Lys Leu Ser Lys Ile Lys Ser
  50 55 60
- Trp Ala Asn Lys Met Glu Ala Leu Thr Ser Lys Ser Ala Ala Asp 65 70 75
- Ala Glu Gly Tyr Leu Ala His Pro Val Asn Ala Tyr Lys Leu Val 80 85 90
- Lys Arg Leu Asn Thr Asp Trp Pro Ala Leu Glu Asp Leu Val Leu
  95 100 105
- Gln Asp Ser Ala Ala Gly Phe Ile Ala Asn Leu Ser Val Gln Arg 110 115 120
- Gln Phe Phe Pro Thr Asp Glu Asp Glu Ile Gly Ala Ala Lys Ala 125 130 135
- Leu Met Arg Leu Gln Asp Thr Tyr Arg Leu Asp Pro Gly Thr Ile 140 145 150
- Ser Arg Gly Glu Leu Pro Gly Thr Lys Tyr Gln Ala Met Leu Ser 155 160 165
- Val Asp Asp Cys Phe Gly Met Gly Arg Ser Ala Tyr Asn Glu Gly
  170 175 180
- Asp Tyr Tyr His Thr Val Leu Trp Met Glu Gln Val Leu Lys Gln 185 190 195
- Leu Asp Ala Gly Glu Glu Ala Thr Thr Thr Lys Ser Gln Val Leu 200 205 210

Asp	Tyr	Leu	Ser	Tyr 215	Ala	Val	Phe	Gln	Leu 220	Gly	Asp	Leu	His	Arg 225
Ala	Leu	Glu	Leu	Thr 230	Arg	Arg	Leu	Leu	Ser 235	Leu	Asp	Pro	Ser	His 240
Glu	Arg	Ala	Gly	Gly 245	Asn	Leu	Arg	Tyr	Phe 250	Glu	Gln	Leu	Leu	Glu 255
Glu	Glu	Arg	Glu	Lys 260	Thr	Leu	Thr	Asn	Gln 265	Thr	Glu	Ala	Glu	Leu 270
Ala	Thr	Pro	Glu	Gly 275	Ile	Tyr	Glu	Arg	Pro 280	Val	Asp	Tyr	Leu	Pro 285
Glu	Arg	Asp	Val	Tyr 290	Glu	Ser	Leu	Cys	Arg 295	Gly	Glu	Gly	Val	Lys 300
Leu	Thr	Pro	Arg	Arg 305	Gln	Lys	Arg	Leu	Phe 310	Cys	Arg	Tyr	His	His 315
Gly	Asn	Arg	Ala	Pro 320	Gln	Leu	Leu	Ile	Ala 325	Pro	Phe	Lys	Glu	Glu 330
Asp	Glu	Trp	Asp	Ser 335	Pro	His	Ile	Val	Arg 340	Tyr	Tyr	Asp	Val	Met 345
Ser	Asp	Glu	Glu	Ile 350	Glu	Arg	Ile	Lys	Glu 355	Ile	Ala	Lys	Pro	Lys 360
Leu	Ala	Arg	Ala	Thr 365	Val	Arg	Asp	Pro	Lys 370	Thr	Gly	Val	Leu	Thr 375
Val	Ala	Ser	Tyr	Arg 380	Val	Ser	Lys	Ser	Ser 385	Trp	Leu	Glu	Glu	Asp 390
Asp	Asp	Pro	Val	Val 395	Ala	Arg	Val	Asn	Arg 400	Arg	Met	Gln	His	Ile 405
Thr	Gly	Leu	Thr	Val 410	Lys	Thr	Ala	Glu	Leu 415	Leu	Gln	Val	Ala	Asn 420
Tyr	Gly	Val	Gly	Gly 425	Gln	Tyr	Glu	Pro	His 430	Phe	Asp	Phe	Ser	Arg 435
Arg	Pro	Phe	Asp	Ser 440	Gly	Leu	Lys	Thr	Glu 445	Gly	Asn	Arg	Leu	Ala 450
Thr	Phe	Leu	Asn	Tyr 455	Met	Ser	Asp	Val	Glu 460	Ala	Gly	Gly	Ala	Thr 465
Val	Phe	Pro	Asp	Leu 470	Gly	Ala	Ala	Ile	Trp 475	Pro	Lys	Lys	Gly	Thr 480

```
Ala Val Phe Trp Tyr Asn Leu Leu Arg Ser Gly Glu Gly Asp Tyr
 Arg Thr Arg His Ala Ala Cys Pro Val Leu Val Gly Cys Lys Trp
                  500
 Val Ser Asn Lys Trp Phe His Glu Arg Gly Gln Glu Phe Leu Arg
                  515
                                      520
 Pro Cys Gly Ser Thr Glu Val Asp
                  530
<210> 333
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 333
ccaggcacaa tttccaga 18
<210> 334
<211> 19
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 334
 ggacccttct gtgtgccag 19
<210> 335
<211> 19
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 335
ggtctcaaga actcctgtc 19
<210> 336
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
```

```
<400> 336
 acactcagca ttgcctggta cttg 24
<210> 337
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 337
gggcacatga ctgacctgat ttatgcagag aaagagctgg tgcag 45
<210> 338
<211> 2789
<212> DNA
<213> Homo Sapien
<400> 338
gcagtattga gttttacttc ctcctctttt tagtggaaga cagaccataa 50
tcccagtgtg agtgaaattg attgtttcat ttattaccgt tttggctggg 100
ggttagttcc gacaccttca cagttgaaga gcaggcagaa ggagttgtga 150
agacaggaca atcttcttgg ggatgctggt cctggaagcc agcgggcctt 200
getetgtett tggeeteatt gaeeceaggt tetetggtta aaactgaaag 250
cctactactg gcctggtgcc catcaatcca ttgatccttg aggctgtgcc 300
cctggggcac ccacctggca gggcctacca ccatgcgact gagctccctg 350
ttggctctgc tgcggccagc gcttcccctc atcttagggc tgtctctggg 400
gtgcagcctg agcctcctgc gggtttcctg gatccagggg gagggagaag 450
atccctgtgt cgaggctgta ggggagcgag gagggccaca gaatccagat 500
tegagagete ggetagaeca aagtgatgaa gaetteaaac eeeggattgt 550
cccctactac agggacccca acaagcccta caagaaggtg ctcaggactc 600
ggtacatcca gacagagetg ggetecegtg ageggttget ggtggetgte 650
ctgacctccc gagctacact gtccactttg gccgtggctg tgaaccgtac 700
ggtggcccat cacttccctc ggttactcta cttcactggg cagcgggggg 750
cccgggctcc agcagggatg caggtggtgt ctcatgggga tgagcggccc 800
```

gcctggctca tgtcagagac cctgcgccac cttcacacac actttggggc 850 cgactacgac tggttcttca tcatgcagga tgacacatat gtgcaggccc 900 cccgcctggc agcccttgct ggccacctca gcatcaacca agacctgtac 950 ttaggccggg cagaggagtt cattggcgca ggcgagcagg cccggtactg 1000 tcatgggggc tttggctacc tgttgtcacg gagtctcctg cttcgtctgc 1050 ggccacatct ggatggctgc cgaggagaca ttctcagtgc ccgtcctgac 1100 gagtggcttg gacgctgcct cattgactct ctgggcgtcg gctgtgtctc 1150 acagcaccag gggcagcagt atcgctcatt tgaactggcc aaaaataggg 1200 accetgagaa ggaagggage teggetttee tgagtgeett egeegtgeae 1250 cctgtctccg aaggtaccct catgtaccgg ctccacaaac gcttcagcgc 1300 tctggagttg gagcgggctt acagtgaaat agaacaactg caggctcaga 1350 teeggaacet gacegtgetg acceeegaag gggaggeagg getgagetgg 1400 cccgttgggc tccctgctcc tttcacacca cactctcgct ttgaggtgct 1450 gggctgggac tacttcacag agcagcacac cttctcctgt gcagatgggg 1500 ctcccaagtg cccactacag ggggctagca gggcggacgt gggtgatgcg 1550 ttggagactg ccctggagca gctcaatcgg cgctatcagc cccgcctgcg 1600 cttccagaag cagcgactgc tcaacggcta tcggcgcttc gacccagcac 1650 ggggcatgga gtacaccctg gacctgctgt tggaatgtgt gacacagcgt 1700 gggcaccggc gggccctggc tcgcagggtc agcctgctgc ggccactgag 1750 ccgggtggaa atcctaccta tgccctatgt cactgaggcc acccgagtgc 1800 agetggtget gecaeteetg gtggetgaag etgetgeage eeeggettte 1850 ctcgaggcgt ttgcagccaa tgtcctggag ccacgagaac atgcattgct 1900 caccctgttg ctggtctacg ggccacgaga aggtggccgt ggagctccag 1950 acccatttct tggggtgaag gctgcagcag cggagttaga gcgacggtac 2000 cctgggacga ggctggcctg gctcgctgtg cgagcagagg ccccttccca 2050 ggtgcgactc atggacgtgg tctcgaagaa gcaccctgtg gacactctct 2100

tettecttac caccgtgtgg acaaggeetg ggcccgaagt cctcaaccgc 2150
tgtcgcatga atgccatct tggctggcag gccttettte cagtccattt 2200
ccaggagtte aatectgeec tgtcaccaca gagatcacce ccagggeece 2250
cgggggctgg ccctgaccce ccctccccte ctggtgctga cccctcccgg 2300
ggggctccta tagggggag atttgaccgg caggettetg cggagggetg 2350
cttctacaac gctgactace tggcggcccg agcccggctg gcaggtgaac 2400
tggcaggca ggaagaggag gaagccctgg agggctgga ggtgatggat 2450
gttttcctcc ggttctcagg gctccaccte tttcgggccg tagagccagg 2500
gctggtgcag aagttctcce tgcgagactg cagccaccgg ctcagtgaag 2550
acctctacca ccgctgccgc ctcagcacc tggaggggct agggggccgt 2600
gcccagctgg ctatggctc ctttgagcag gagcaggcca atagcactta 2650
gcccagctgg gggccctaac ctcattacct ttcctttgtc tgcctcagcc 2700
ccaggaaggg caaggcaaga tggtggacag atagagaatt gttgctgtat 2750
tttttaaata tgaaaatgtt attaaacatg tcttctgcc 2789

- <210> 339
- <211> 772
- <212> PRT
- <213> Homo Sapien
- <400> 339
- Met Arg Leu Ser Ser Leu Leu Ala Leu Leu Arg Pro Ala Leu Pro 1 5 10
- Leu Ile Leu Gly Leu Ser Leu Gly Cys Ser Leu Ser Leu Leu Arg
  20 25 30
- Val Ser Trp Ile Gln Gly Glu Gly Glu Asp Pro Cys Val Glu Ala 35 40 45
- Val Gly Glu Arg Gly Gly Pro Gln Asn Pro Asp Ser Arg Ala Arg
  50 55 60
- Leu Asp Gln Ser Asp Glu Asp Phe Lys Pro Arg Ile Val Pro Tyr
  65 70 75
- Tyr Arg Asp Pro Asn Lys Pro Tyr Lys Lys Val Leu Arg Thr Arg
  80 85 90
- Tyr Ile Gln Thr Glu Leu Gly Ser Arg Glu Arg Leu Leu Val Ala

				95					100					105
Val	Leu	Thr	Ser	Arg 110	Ala	Thr	Leu	Ser	Thr 115	Leu	Ala	Val	Ala	Val 120
Asn	Arg	Thr	Val	Ala 125	His	His	Phe	Pro	Arg 130	Leu	Leu	Tyr	Phe	Thr 135
Gly	Gln	Arg	Gly	Ala 140	Arg	Ala	Pro	Ala	Gly 145	Met	Gln	Val	Val	Ser 150
His	Gly	Asp	Glu	Arg 155	Pro	Ala	Trp	Leu	Met 160	Ser	Glu	Thr	Leu	Arg 165
His	Leu	His	Thr	His 170	Phe	Gly	Ala	Asp	Tyr 175	Asp	Trp	Phe	Phe	Ile 180
Met	Gln	Asp	Asp	Thr 185	Tyr	Val	Gln	Ala	Pro 190	Arg	Leu	Ala	Ala	Leu 195
Ala	Gly	His	Leu	Ser 200	Ile	Asn	Gln	Asp	Leu 205	Tyr	Leu	Gly	Arg	Ala 210
Glu	Glu	Phe	Ile	Gly 215	Ala	Gly	Glu	Gln	Ala 220	Arg	Tyr	Cys	His	Gly 225
Gly	Phe	Gly	Tyr	Leu 230	Leu	Ser	Arg	Ser	Leu 235	Leu	Leu	Arg	Leu	Arg 240
Pro	His	Leu	Asp	Gly 245	Cys	Arg	Gly	Asp	Ile 250	Leu	Ser	Ala	Arg	Pro 255
Asp	Glu	Trp	Leu	Gly 260	Arg	Cys	Leu	Ile	Asp 265	Ser	Leu	Gly	Val	Gly 270
				275			Gln		280					285
Ala	Lys	Asn	Arg	Asp 290	Pro	Glu	Lys	Glu	Gly 295	Ser	Ser	Ala	Phe	Leu 300
Ser	Ala	Phe	Ala	Val 305	His	Pro	Val	Ser	Glu 310	Gly	Thr	Leu	Met	Tyr 315
Arg	Leu	His	Lys	Arg 320	Phe	Ser	Ala	Leu	Glu 325	Leu	Glu	Arg	Ala	Tyr 330
				335			Ala		340					345
Leu	Thr	Pro	Glu	Gly 350	Glu	Ala	Gly	Leu	Ser	Trp	Pro	Val	Gly	Leu

Pro	Ala	Pro	Phe	Thr 365	Pro	His	Ser	Arg	Phe 370	Glu	Val	Leu	Gly	Trp 375
Asp	Tyr	Phe	Thr	Glu 380	Gln	His	Thr	Phe	Ser 385	Cys	Ala	Asp	Gly	Ala 390
Pro	Lys	Cys	Pro	Leu 395	Gln	Gly	Ala	Ser	Arg 400	Ala	Asp	Val	Gly	Asp 405
Ala	Leu	Glu	Thr	Ala 410	Leu	Glu	Gln	Leu	Asn 415	Arg	Arg	Tyr	Gln	Pro 420
Arg	Leu	Arg	Phe	Gln 425	Lys	Gln	Arg	Leu	Leu 430	Asn	Gly	Tyr	Arg	Arg 435
Phe	Asp	Pro	Ala	Arg 440	Gly	Met	Glu	Tyr	Thr 445	Leu	Asp	Leu	Leu	Leu 450
Glu	Cys	Val	Thr	Gln 455	Arg	Gly	His	Arg	Arg 460	Ala	Leu	Ala	Arg	Arg 465
Val	Ser	Leu	Leu	Arg 470	Pro	Leu	Ser	Arg	Val 475	Glu	Ile	Leu	Pro	Met 480
Pro	Tyr	Val	Thr	Glu 485	Ala	Thr	Arg	Val	Gln 490	Leu	Val	Leu	Pro	Leu 495
Leu	Val	Ala	Glu	Ala 500	Ala	Ala	Ala	Pro	Ala 505	Phe	Leu	Glu	Ala	Phe 510
Ala	Ala	Asn	Val	Leu 515	Glu	Pro	Arg	Glu	His 520	Ala	Leu	Leu	Thr	Leu 525
Leu	Leu	Val	Tyr	Gly 530	Pro	Arg	Glu	Gly	Gly 535	Arg	Gly	Ala	Pro	Asp 540
Pro	Phe	Leu	Gly	Val 545	Lys	Ala	Ala	Ala	Ala 550	Glu	Leu	Glu	Arg	Arg 555
Tyr	Pro	Gly	Thr	Arg 560	Leu	Ala	Trp	Leu	Ala 565	Val	Arg	Ala	Glu	Ala 570
Pro	Ser	Gln	Val	Arg 575	Leu	Met	Asp	Val	Val 580	Ser	Lys	Lys	His	Pro 585
Val	Asp	Thr	Leu	Phe 590	Phe	Leu	Thr	Thr	Val 595	Trp	Thr	Arg	Pro	Gly 600
Pro	Glu	Val	Leu	Asn 605	Arg	Cys	Arg	Met	Asn 610	Ala	Ile	Ser	Gly	Trp 615
Gln	Ala	Phe	Phe	Pro 620	Val	His	Phe	Gln	Glu 625	Phe	Asn	Pro	Ala	Leu 630

Ser Pro Gln Arg Ser Pro Pro Gly Pro Pro Gly Ala Gly Pro Asp Pro Pro Ser Pro Pro Gly Ala Asp Pro Ser Arg Gly Ala Pro Ile 650 Gly Gly Arg Phe Asp Arg Gln Ala Ser Ala Glu Gly Cys Phe Tyr 670 675 Asn Ala Asp Tyr Leu Ala Ala Arg Ala Arg Leu Ala Gly Glu Leu 685 Ala Gly Gln Glu Glu Glu Ala Leu Glu Gly Leu Glu Val Met 695 700 705 Asp Val Phe Leu Arg Phe Ser Gly Leu His Leu Phe Arg Ala Val 715 720 Glu Pro Gly Leu Val Gln Lys Phe Ser Leu Arg Asp Cys Ser Pro 730 Arg Leu Ser Glu Glu Leu Tyr His Arg Cys Arg Leu Ser Asn Leu 745 Glu Gly Leu Gly Gly Arg Ala Gln Leu Ala Met Ala Leu Phe Glu 755 Gln Glu Gln Ala Asn Ser Thr

<210> 340

<211> 1572

<212> DNA

<213> Homo Sapien

<400> 340

cggagtggtg cgccaacgtg agaggaaacc cgtgcgggc tgcgctttcc 50
tgtcccaag ccgttctaga cgcgggaaaa atgcttctg aaagcagctc 100
cttttgaag ggtgtgatgc ttggaagcat tttctgtgct ttgatcacta 150
tgctaggaca cattaggatt ggtcatggaa atagaatgca ccaccatgag 200
catcatcacc tacaagctcc taacaaagaa gatatcttga aaatttcaga 250
ggatgagcgc atggagctca gtaagagctt tcgagtatac tgtattatcc 300
ttgtaaaacc caaagatgtg agtctttgg ctgcagtaaa ggagacttgg 350
accaaacact gtgacaaagc agagttcttc agttctgaaa atgttaaagt 400

gtttgagtca attaatatgg acacaaatga catgtggtta atgatgagaa 450 aagcttacaa atacgccttt gataagtata gagaccaata caactggttc 500 ttccttgcac gccccactac gtttgctatc attgaaaacc taaagtattt 550 tttgttaaaa aaggatccat cacagccttt ctatctaggc cacactataa 600 aatctggaga ccttgaatat gtgggtatgg aaggaggaat tgtcttaagt 650 gtagaatcaa tgaaaagact taacagcctt ctcaatatcc cagaaaagtg 700 tcctgaacag ggagggatga tttggaagat atctgaagat aaacagctag 750 cagtttgcct gaaatatgct ggagtatttg cagaaaatgc agaagatgct 800 gatggaaaag atgtatttaa taccaaatct gttgggcttt ctattaaaga 850 ggcaatgact tatcacccca accaggtagt agaaggctgt tgttcagata 900 tggctgttac ttttaatgga ctgactccaa atcagatgca tgtgatgatg 950 tatggggtat accgccttag ggcatttggg catattttca atgatgcatt 1000 ggttttctta cctccaaatg gttctgacaa tgactgagaa gtggtagaaa 1050 agcgtgaata tgatctttgt ataggacgtg tgttgtcatt atttgtagta 1100 gtaactacat atccaataca gctgtatgtt tctttttctt ttctaatttg 1150 gtggcactgg tataaccaca cattaaagtc agtagtacat ttttaaatga 1200 gggtggtttt tttctttaaa acacatgaac attgtaaatg tgttggaaag 1250 aagtgtttta agaataataa ttttgcaaat aaactattaa taaatattat 1300 atgtgataaa ttctaaatta tgaacattag aaatctgtgg ggcacatatt 1350 tttgctgatt ggttaaaaaa ttttaacagg tctttagcgt tctaagatat 1400 gcaaatgata tctctagttg tgaatttgtg attaaagtaa aacttttagc 1450 tgtgtgttcc ctttacttct aatactgatt tatgttctaa gcctccccaa 1500 gttccaatgg atttgccttc tcaaaatgta caactaagca actaaagaaa 1550 attaaagtga aagttgaaaa at 1572

<sup>&</sup>lt;210> 341

<sup>&</sup>lt;211> 318

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo Sapien

	> 34: Leu		Glu	Ser 5	Ser	Ser	Phe	Leu	Lys 10	Gly	Val	Met	Leu	Gly 15
Ser	Ile	Phe	Cys	Ala 20	Leu	Ile	Thr	Met	Leu 25	Gly	His	Ile	Arg	Ile 30
Gly	His	Gly	Asn	Arg 35	Met	His	His	His	Glu 40	His	His	His	Leu	Gln 45
Ala	Pro	Asn	Lys	Glu 50	Asp	Ile	Leu	Lys	Ile 55	Ser	Glu	Asp	Glu	Arg 60
Met	Glu	Leu	Ser	Lys 65	Ser	Phe	Arg	Val	Tyr 70	Cys	Ile	Ile	Leu	Val 75
Lys	Pro	Lys	Asp	Val 80	Ser	Leu	Trp	Ala	Ala 85	Val	Lys	Glu	Thr	Trp 90
Thr	Lys	His	Cys	Asp 95	Lys	Ala	Glu	Phe	Phe 100	Ser	Ser	Glu	Asn	Val 105
Lys	Val	Phe	Glu	Ser 110	Ile	Asn	Met	Asp	Thr 115	Asn	Asp	Met	Trp	Leu 120
Met	Met	Arg	Lys	Ala 125	Tyr	Lys	Tyr	Ala	Phe 130	Asp	Lys	Tyr	Arg	Asp 135
Gln	Tyr	Asn	Trp	Phe 140	Phe	Leu	Ala	Arg	Pro 145	Thr	Thr	Phe	Ala	Ile 150
Ile	Glu	Asn	Leu	Lys 155	Tyr	Phe	Leu	Leu	Lys 160	Lys	Asp	Pro	Ser	Gln 165
Pro	Phe	Tyr	Leu	Gly 170	His	Thr	Ile	Lys	Ser 175	Gly	Asp	Leu	Glu	Tyr 180
Va1	Gly	Met	Glu	Gly 185	Gly	Ile	Val	Leu	Ser 190	Va1	Glu	Ser	Met	Lys 195
Arg	Leu	Asn	Ser	Leu 200	Leu	Asn	Ile	Pro	Glu 205	Lys	Cys	Pro	Glu	Gln 210
Gly	Gly	Met	Ile	Trp 215	Lys	Ile	Ser	Glu	Asp 220	Lys	Gln	Leu	Ala	Val 225
Суз	Leu	Lys	Tyr	Ala 230	Gly	Val	Phe	Ala	Glu 235	Asn	Ala	Glu	Asp	Ala 240
Asp	Gly	Lys	Asp	Val 245	Phe	Asn	Thr	Lys	Ser 250	Val	Gly	Leu	Ser	Ile 255
Lys	Glu	Ala	Met	Thr	Tyr	His	Pro	Asn	Gln	Val	Val	Glu	Gly	Cys

270

```
260
                                          265
     Cys Ser Asp Met Ala Val Thr Phe Asn Gly Leu Thr Pro Asn Gln
                     275
                                          280
     Met His Val Met Met Tyr Gly Val Tyr Arg Leu Arg Ala Phe Gly
    His Ile Phe Asn Asp Ala Leu Val Phe Leu Pro Pro Asn Gly Ser
                     305
                                          310
    Asp Asn Asp
    <210> 342
    <211> 23
    <212> DNA
   <213> Artificial Sequence
   <220>
   <223> Synthetic Oligonucleotide Probe
   <400> 342
    tecceaagee gttetagaeg egg 23
<210> 343
   <211> 18
   <212> DNA
   <213> Artificial Sequence
   <220>
   <223> Synthetic Oligonucleotide Probe
   <400> 343
    ctggttcttc cttgcacg 18
   <210> 344
   <211> 28
   <212> DNA
   <213> Artificial Sequence
  <220>
  <223> Synthetic Oligonucleotide Probe
  <400> 344
   gcccaaatgc cctaaggcgg tatacccc 28
  <210> 345
  <211> 50
  <212> DNA
  <213> Artificial Sequence
  <220>
```

```
<223> Synthetic Oligonucleotide Probe
<400> 345
gggtgtgatg cttggaagca ttttctgtgc tttgatcact atgctaggac 50
<210> 346
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 346
gggatgcagg tggtgtctca tgggg 25
<210> 347
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 347
ccctcatgta ccggctcc 18
<210> 348
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 348
ggattctaat acgactcact atagggctca gaaaagcgca acagagaa 48
<210> 349
<211> 47
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 349
ctatgaaatt aaccctcact aaagggatgt cttccatgcc aaccttc 47
<210> 350
<211> 48
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> Synthetic Oligonucleotide Probe
 ggattctaat acgactcact atagggcggc gatgtccact ggggctac 48
<210> 351
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 351
ctatgaaatt aaccctcact aaagggacga ggaagatggg cggatggt 48
<210> 352
<211> 47
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 352
ggattctaat acgactcact atagggcacc cacgcgtccg gctgctt 47
<210> 353
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 353
ctatgaaatt aaccctcact aaagggacgg gggacaccac ggaccaga 48
<210> 354
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
ggattctaat acgactcact atagggcttg ctgcggtttt tgttcctg 48
<210> 355
<211> 48
```

```
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 355
 ctatgaaatt aaccctcact aaagggagct gccgatccca ctggtatt 48
<210> 356
<211> 46
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
ggattctaat acgactcact atagggcgga tcctggccgg cctctg 46
<210> 357
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 357
ctatgaaatt aaccctcact aaagggagcc cgggcatggt ctcagtta 48
<210> 358
<211> 47
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 358
ggattctaat acgactcact atagggcggg aagatggcga ggaggag 47
<210> 359
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 359
ctatgaaatt aaccctcact aaagggacca aggccacaaa cggaaatc 48
```

```
<210> 360
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 360
ggattctaat acgactcact atagggctgt gctttcattc tgccagta 48
<210> 361
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
ctatgaaatt aaccctcact aaagggaggg tacaattaag gggtggat 48
<210> 362
<211> 47
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 362
ggattctaat acgactcact atagggcccg cctcgctcct gctcctg 47
<210> 363
<211> 48
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 363
ctatgaaatt aaccctcact aaagggagga ttgccgcgac cctcacag 48
<210> 364
<211> 47
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 364
```

```
ggattctaat acgactcact atagggcccc tcctgccttc cctgtcc 47
<210> 365
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 365
ctatgaaatt aaccetcact aaagggagtg gtggccgcga ttatctgc 48
<210> 366
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 366
ggattctaat acgactcact atagggcgca gcgatggcag cgatgagg 48
<210> 367
<211> 47
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 367
ctatgaaatt aaccctcact aaagggacag acggggcaga gggagtg 47
<210> 368
<211> 47
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
ggattetaat acgaeteact atagggeeag gaggegtgag gagaaac 47
<210> 369
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
```

```
<223> Synthetic Oligonucleotide Probe
<400> 369
 ctatgaaatt aaccctcact aaagggaaag acatgtcatc gggagtgg 48
<210> 370
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 370
 ggattctaat acgactcact atagggccgg gtggaggtgg aacagaaa 48
<210> 371
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 371
ctatgaaatt aaccctcact aaagggacac agacagagcc ccatacgc 48
<210> 372
<211> 47
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 372
ggattctaat acgactcact atagggccag ggaaatccgg atgtctc 47
<210> 373
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 373
ctatgaaatt aaccctcact aaagggagta aggggatgcc accgagta 48
<210> 374
<211> 47
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> Synthetic Oligonucleotide Probe
ggattctaat acgactcact atagggccag ctacccgcag gaggagg 47
<210> 375
<211> 48
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 375
ctatgaaatt aaccctcact aaagggatcc caggtgatga ggtccaga 48
<210> 376
<211> 997
<212> DNA
<213> Homo Sapien
<400> 376
cccacgcgtc cgatcttacc aacaaaacac tcctgaggag aaagaaagag 50
aaaaaatgaa ttcatctaaa tcatctgaaa cacaatgcac agagagagga 150
tgcttctctt cccaaatgtt cttatggact gttgctggga tccccatcct 200
atttctcagt gcctgtttca tcaccagatg tgttgtgaca tttcgcatct 250
ttcaaacctg tgatgagaaa aagtttcagc tacctgagaa tttcacagag 300
ctctcctgct acaattatgg atcaggttca gtcaagaatt gttgtccatt 350
gaactgggaa tattttcaat ccagctgcta cttcttttct actgacacca 400
tttcctgggc gttaagttta aagaactgct cagccatggg ggctcacctg 450
taaaatgaga gagttttta ttggactgtc agaccaggtt gtcgagggtc 550
agtggcaatg ggtggacggc acacctttga caaagtctct gagcttctgg 600
gatgtagggg agcccaacaa catagctacc ctggaggact gtgccaccat 650
gagagactct tcaaacccaa ggcaaaattg gaatgatgta acctgtttcc 700
tcaattattt tcggatttgt gaaatggtag gaataaatcc tttgaacaaa 750
```

<210> 377

<211> 219

<212> PRT

<213> Homo Sapien

<400> 377

Met Asn Ser Ser Lys Ser Ser Glu Thr Gln Cys Thr Glu Arg Gly 1 5 10 15

Cys Phe Ser Ser Gln Met Phe Leu Trp Thr Val Ala Gly Ile Pro 20 25 30

Ile Leu Phe Leu Ser Ala Cys Phe Ile Thr Arg Cys Val Val Thr
35 40 45

Phe Arg Ile Phe Gln Thr Cys Asp Glu Lys Lys Phe Gln Leu Pro 50 55 60

Glu Asn Phe Thr Glu Leu Ser Cys Tyr Asn Tyr Gly Ser Gly Ser 65 70 75

Val Lys Asn Cys Cys Pro Leu Asn Trp Glu Tyr Phe Gln Ser Ser 80 85 90

Cys Tyr Phe Phe Ser Thr Asp Thr Ile Ser Trp Ala Leu Ser Leu 95 100 105

Lys Asn Cys Ser Ala Met Gly Ala His Leu Val Val Ile Asn Ser 110 115 120

Gln Glu Glu Gln Glu Phe Leu Ser Tyr Lys Lys Pro Lys Met Arg 125 130 135

Glu Phe Phe Ile Gly Leu Ser Asp Gln Val Val Glu Gly Gln Trp 140 145 150

Gln Trp Val Asp Gly Thr Pro Leu Thr Lys Ser Leu Ser Phe Trp
155 160 165

Asp Val Gly Glu Pro Asn Asn Ile Ala Thr Leu Glu Asp Cys Ala 170 175 180

```
Thr Met Arg Asp Ser Ser Asn Pro Arg Gln Asn Trp Asn Asp Val
                 185
                                      190
 Thr Cys Phe Leu Asn Tyr Phe Arg Ile Cys Glu Met Val Gly Ile
                 200
 Asn Pro Leu Asn Lys Gly Lys Ser Leu
<210> 378
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 378
ttcagcttct gggatgtagg g 21
<210> 379
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 379
tattcctacc atttcacaaa tccg 24
<210> 380
<211> 49
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 380
ggaggactgt gccaccatga gagactcttc aaacccaagg caaaattgg 49
<210> 381
<211> 26
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 381
gcagattttg aggacagcca cctcca 26
```

```
<210> 382
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 382
ggccttgcag acaaccgt 18
<210> 383
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 383
cagactgagg gagatccgag a 21
<210> 384
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 384
cagctgccct tccccaacca 20
<210> 385
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 385
catcaagcgc ctctacca 18
<210> 386
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 386
```

```
cacaaactcg aactgcttct g 21
<210> 387
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 387
gggccatcac agctccct 18
<210> 388
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 388
gggatgtggt gaacacagaa ca 22
<210> 389
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 389
tgccagctgc atgctgccag tt 22
<210> 390
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 390
cagaaggatg tcccgtggaa 20
<210> 391
<211> 17
<212> DNA
<213> Artificial Sequence
<220>
```

```
<223> Synthetic oligonucleotide probe
<400> 391
gccgctgtcc actgcag 17
<210> 392
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 392
gacggcatcc tcagggccac a 21
<210> 393
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 393
atgtcctcca tgcccacgcg 20
<210> 394
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 394
gagtgcgaca tcgagagctt 20
<210> 395
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 395
ccgcagcctc agtgatga 18
<210> 396
<211> 21
<212> DNA
<213> Artificial Sequence
```

```
<220>
 <223> Synthetic oligonucleotide probe
 <400> 396
 gaagagcaca gctgcagatc c 21
 <210> 397
 <211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 397
 gaggtgtcct ggctttggta gt 22
<210> 398
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 398
 cctctggcgc ccccactcaa 20
<210> 399
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 399
 ccaggagagc tggcgatg 18
<210> 400
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 400
gcaaattcag ggctcactag aga 23
<210> 401
<211> 29
```

```
<212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 401
  cacagagcat ttgtccatca gcagttcag 29
 <210> 402
 <211> 22
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 <400> 402
 ggcagagact tccagtcact ga 22
<210> 403
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 403
 gccaagggtg gtgttagata gg 22
<210> 404
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 404
 caggecect tgatetgtac ecca 24
<210> 405
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 405
gggacgtgct tctacaagaa cag 23
```

```
<210> 406
<211> 26
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 406
 caggettaca atgttatgat cagaca 26
<210> 407
<211> 31
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 407
tattcagagt tttccattgg cagtgccagt t 31
<210> 408
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 408
tctacatcag cctctctgcg c 21
<210> 409
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 409
cgatcttctc cacccaggag cgg 23
<210> 410
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 410
```

```
gccaggcctc acattcgt 18
<210> 411
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 411
ctccctgaat ggcagcctga gca 23
<210> 412
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 412
aggtgtttat taagggccta cgct 24
<210> 413
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 413
cagagcagag ggtgccttg 19
<210> 414
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 414
tggcggagtc ccctcttggc t 21
<210> 415
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
```

```
<223> Synthetic oligonucleotide probe
<400> 415
 ccctgtttcc ctatgcatca ct 22
<210> 416
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 416
tcaaccctg accctttcct a 21
<210> 417
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 417
ggcaggggac aagccatctc tcct 24
<210> 418
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 418
gggactgaac tgccagcttc 20
<210> 419
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 419
gggccctaac ctcattacct tt 22
<210> 420
<211> 23
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> Synthetic oligonucleotide probe
<400> 420
tgtctgcctc agccccagga agg 23
<210> 421
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 421
tctgtccacc atcttgcctt g 21
<210> 422
<211> 3554
<212> DNA
<213> Homo Sapien
<400> 422
 gggactacaa gccgcgccgc gctgccgctg gcccctcagc aaccctcgac 50
 atggcgctga ggcggccacc gcgactccgg ctctgcgctc ggctgcctga 100
 cttcttcctg ctgctgcttt tcaggggctg cctgataggg gctgtaaatc 150
 tcaaatccag caatcgaacc ccagtggtac aggaatttga aagtgtggaa 200
 ctgtcttgca tcattacgga ttcgcagaca agtgacccca ggatcgagtg 250
 gaagaaaatt caagatgaac aaaccacata tgtgtttttt gacaacaaaa 300
 ttcagggaga cttggcgggt cgtgcagaaa tactggggaa gacatccctg 350
 aagatetgga atgtgacaeg gagagaetea geeetttate getgtgaggt 400
 cgttgctcga aatgaccgca aggaaattga tgagattgtg atcgagttaa 450
 ctgtgcaagt gaagccagtg acccctgtct gtagagtgcc gaaggctgta 500
 ccagtaggca agatggcaac actgcactgc caggagagtg agggccaccc 550
 ccggcctcac tacagctggt atcgcaatga tgtaccactg cccacggatt 600
 ccagagccaa tcccagattt cgcaattctt ctttccactt aaactctgaa 650
 acaggcactt tggtgttcac tgctgttcac aaggacgact ctgggcagta 700
 ctactgcatt gcttccaatg acgcaggctc agccaggtgt gaggagcagg 750
```

agatggaagt ctatgacctg aacattggcg gaattattgg gggggttctg 800 gttgtccttg ctgtactggc cctgatcacg ttgggcatct gctgtgcata 850 cagacgtggc tacttcatca acaataaaca ggatggagaa agttacaaga 900 acccagggaa accagatgga gttaactaca tccgcactga cgaggagggc 950 gacttcagac acaagtcatc gtttgtgatc tgagacccgc ggtgtggctg 1000 agagcgcaca gagcgcacgt gcacatacct ctgctagaaa ctcctgtcaa 1050 ggcagcgaga gctgatgcac tcggacagag ctagacactc attcagaagc 1100 ttttcgtttt ggccaaagtt gaccactact cttcttactc taacaagcca 1150 catgaataga agaattttcc tcaagatgga cccggtaaat ataaccacaa 1200 ggaagcgaaa ctgggtgcgt tcactgagtt gggttcctaa tctgtttctg 1250 gcctgattcc cgcatgagta ttagggtgat cttaaagagt ttgctcacgt 1300 aaacgcccgt gctgggccct gtgaagccag catgttcacc actggtcgtt 1350 cagcagccac gacagcacca tgtgagatgg cgaggtggct ggacagcacc 1400 agcagegeat eceggeggga acceagaaaa ggettettae acageageet 1450 tacttcatcg gcccacagac accaccgcag tttcttctta aaggctctgc 1500 tgatcggtgt tgcagtgtcc attgtggaga agctttttgg atcagcattt 1550 tgtaaaaaca accaaaatca ggaaggtaaa ttggttgctg gaagagggat 1600 cttgcctgag gaaccctgct tgtccaacag ggtgtcagga tttaaggaaa 1650 accttcgtct taggctaagt ctgaaatggt actgaaatat gcttttctat 1700 gggtcttgtt tattttataa aattttacat ctaaattttt gctaaggatg 1750 tattttgatt attgaaaaga aaatttctat ttaaactgta aatatattgt 1800 catacaatgt taaataacct attttttaa aaaagttcaa cttaaggtag 1850 aagttccaag ctactagtgt taaattggaa aatatcaata attaagagta 1900 ttttacccaa ggaatcctct catggaagtt tactgtgatg ttccttttct 1950 cacacaagtt ttagcctttt tcacaaggga actcatactg tctacacatc 2000 agaccatagt tgcttaggaa acctttaaaa attccagtta agcaatgttg 2050

aaatcagttt gcatctcttc aaaagaaacc tctcaggtta gctttgaact 2100 gcctcttcct gagatgacta ggacagtctg tacccagagg ccacccagaa 2150 gccctcagat gtacatacac agatgccagt cagctcctgg ggttgcgcca 2200 ggcgcccccg ctctagctca ctgttgcctc gctgtctgcc aggaggccct 2250 gccatccttg ggccctggca gtggctgtgt cccagtgagc tttactcacg 2300 tggcccttgc ttcatccagc acagctctca ggtgggcact gcagggacac 2350 tggtgtcttc catgtagcgt cccagctttg ggctcctgta acagacctct 2400 ttttggttat ggatggctca caaaataggg cccccaatgc tattttttt 2450 ttttaagttt gtttaattat ttgttaagat tgtctaaggc caaaggcaat 2500 tgcgaaatca agtctgtcaa gtacaataac atttttaaaa gaaaatggat 2550 cccactgttc ctctttgcca cagagaaagc acccagacgc cacaggctct 2600 gtcgcatttc aaaacaaacc atgatggagt ggcggccagt ccagcctttt 2650 aaagaacgtc aggtggagca gccaggtgaa aggcctggcg gggaggaaag 2700 tgaaacgcct gaatcaaaag cagttttcta attttgactt taaatttttc 2750 atccgccgga gacactgctc ccatttgtgg ggggacatta gcaacatcac 2800 tcagaagcct gtgttcttca agagcaggtg ttctcagcct cacatgccct 2850 gccgtgctgg actcaggact gaagtgctgt aaagcaagga gctgctgaga 2900 aggagcactc cactgtgtgc ctggagaatg gctctcacta ctcaccttgt 2950 ctttcagctt ccagtgtctt gggtttttta tactttgaca gcttttttt 3000 aattgcatac atgagactgt gttgactttt tttagttatg tgaaacactt 3050 tgccgcagge cgcctggcag aggcaggaaa tgctccagca gtggctcagt 3100 getecetggt gtetgetgea tggeateetg gatgettage atgeaagtte 3150 cctccatcat tgccaccttg gtagagaggg atggctcccc accctcagcg 3200 ttggggattc acgctccagc ctccttcttg gttgtcatag tgatagggta 3250 gccttattgc cccctcttct tataccctaa aaccttctac actagtgcca 3300 tgggaaccag gtctgaaaaa gtagagagaa gtgaaagtag aqtctgqqaa 3350 gtagctgcct ataactgaga ctagacggaa aaggaatact cgtgtatttt 3400

aagatatgaa tgtgactcaa gactcgaggc cgatacgagg ctgtgattct 3450 gcctttggat ggatgttgct gtacacagat gctacagact tgtactaaca 3500 caccgtaatt tggcatttgt ttaacctcat ttataaaagc ttcaaaaaaa 3550 ccca 3554

<210> 423

<211> 310

<212> PRT

<213> Homo Sapien

<400> 423

Met Ala Leu Arg Arg Pro Pro Arg Leu Arg Leu Cys Ala Arg Leu
1 5 10 15

Pro Asp Phe Phe Leu Leu Leu Leu Phe Arg Gly Cys Leu Ile Gly 20 25 30

Ala Val Asn Leu Lys Ser Ser Asn Arg Thr Pro Val Val Gln Glu  $_{
m 35}$  40 45

Phe Glu Ser Val Glu Leu Ser Cys Ile Ile Thr Asp Ser Gln Thr 50 55 60

Ser Asp Pro Arg Ile Glu Trp Lys Lys Ile Gln Asp Glu Gln Thr
65 70 75

Thr Tyr Val Phe Phe Asp Asn Lys Ile Gln Gly Asp Leu Ala Gly 80 85 90

Arg Ala Glu Ile Leu Gly Lys Thr Ser Leu Lys Ile Trp Asn Val 95 100 105

Thr Arg Arg Asp Ser Ala Leu Tyr Arg Cys Glu Val Val Ala Arg 110 115 120

Asn Asp Arg Lys Glu Ile Asp Glu Ile Val Ile Glu Leu Thr Val 125 130 135

Gln Val Lys Pro Val Thr Pro Val Cys Arg Val Pro Lys Ala Val 140 145 150

Pro Val Gly Lys Met Ala Thr Leu His Cys Gln Glu Ser Glu Gly 155 160 165

His Pro Arg Pro His Tyr Ser Trp Tyr Arg Asn Asp Val Pro Leu 170 175 180

Pro Thr Asp Ser Arg Ala Asn Pro Arg Phe Arg Asn Ser Ser Phe 185 190 195

His	Leu	Asn	Ser	Glu 200	Thr	Gly	Thr	Leu	Val 205	Phe	Thr	Ala	Val	His 210
Lys	Asp	Asp	Ser	Gly 215	Gln	Tyr	Tyr	Cys	Ile 220	Ala	Ser	Asn	Asp	Ala 225
Gly	Ser	Ala	Arg	Cys 230	Glu	Glu	Gln	Glu	Met 235	Glu	Val	Tyr	Asp	Leu 240
Asn	Ile	Gly	Gly	Ile 245	Ile	Gly	Gly	Val	Leu 250	Val	Val	Leu	Ala	Val 255
Leu	Ala	Leu	Ile	Thr 260	Leu	Gly	Ile	Cys	Cys 265	Ala	Tyr	Arg	Arg	Gly 270
Tyr	Phe	Ile	Asn	Asn	Lys	Gln	Asp	Gly	Glu	Ser	Tyr	Lys	Asn	Pro
				275					280					285
Gly	Lys	Pro	Asp	Gly 290	Val	Asn	Tyr	Ile	Arg 295	Thr	Asp	Glu	Glu	Gly 300
Asp	Phe	Arg	His	Lys 305	Ser	Ser	Phe	Val	Ile 310					